Annual Session California Medical Association, Del Monte, April 28-May 1, 1930
Annual Session American Medical Association, Detroit, Michigan, June 23-27, 1930

JA 17 1930

CALIFORNIA
AND
WESTERN MEDICINE

Owned and Published Monthly by the California Medical Association
FOUR FIFTY SUTTER, ROOM 2004, SAN FRANCISCO
ACCREDITED REPRESENTATIVE OF THE CALIFORNIA, NEVADA AND UTAH MEDICAL ASSOCIATIONS

VOLUME XXXII
NUMBER 1

JANUARY . 1930

50 CENTS A COPY
$5.00 A YEAR

CONTENTS AND SUBJECT INDEX

SPECIAL ARTICLES:

Intestinal Obstruction. By V. R. Mason, Los Angeles 1
Discussion by Charles D. Lockwood, Pasadena; William J. Kerr, San Francisco; Lovell Langstroth, San Francisco.

Medical Care of Peptic Ulcer. By Howard R. Hartman, Rochester, Minnesota 5

Pulmonary Tuberculosis. By F. M. Pottenger, Monrovia 9
Discussion by Philip H. Pierson, San Francisco; William C. Voorsanger, San Francisco; A. L. Bramkamp, Banning.

The Teaching of Perineal Prostatectomy. By Frank Hinman, San Francisco 13
Discussion by Ralph Williams, Los Angeles; R. L. Rigdon, San Francisco; Robert V. Day, Los Angeles.

The Child Who Will Not Eat. By Henry E. Stafford, Oakland 18
Discussion by C. F. Gelston, San Francisco; William W. Belford, San Diego.

Blood Sedimentation Test. By Donald G. Tollefson, Los Angeles 20
Discussion by Donovan Johnson, Los Angeles; Alice F. Maxwell, San Francisco.

Kahn Precipitation Test for Syphilis. By Newton Evans, Los Angeles 24
Discussion by Gertrude Moore, Oakland; W. T. Cummins, San Francisco; Zera E. Bolin, San Francisco.

Scabies and Its Complications. By Thomas J. Clark and Frank H. Stibbens, Oakland 26
Discussion by George D. Culver, San Francisco; Robert T. Legge, Berkeley; C. Ray Lounsberry, San Diego.

The Diagnosis and Treatment of Lung Abscess. By Frank S. Dolley, Los Angeles 28
Discussion by Philip H. Pierson, San Francisco; Harold Brunn, San Francisco; F. M. Pottenger, Monrovia.

Carcinoma of the Cervix—Its Surgical Treatment. By Hans von Geldern, San Francisco 32
Discussion by William H. Gilbert, Los Angeles; Emil G. Beck, Chicago; C. G. Toland, Los Angeles.

A Note on the Medical Books of Famous Printers (Part I)—The Lure of Medical History. By Chauncey D. Leake, San Francisco 36

CLINICAL NOTES AND CASE REPORTS:

Extensive Fracture of Skull. By S. Nicholas Jacobs and Lawrence M. Trauner, San Francisco 40

Self-Retaining Intra-Uterine Pessary. By Olga McNeile, Los Angeles 41

Surgical Catastrophes Following Overlooked Stone. By Stanley H. Mentzer, San Francisco 42

BEDSIDE MEDICINE:

The Causes of Angina Pectoris 43
Discussion by Robert William Langley, Los Angeles; Joseph M. King, Los Angeles; Harry Spiro, San Francisco; J. Marion Read, San Francisco; William Dock, San Francisco.

EDITORIALS:

The C. M. A. and the Years 1929 and 1930 47

New County Society Officers—Some of Their Problems 49

Individualism and the Group Spirit in the Practice of Medicine 51

Mary Baker Eddy—A Letter and a Book Review 52

MEDICINE TODAY:

Chronic Dacryocystitis. By M. F. Weymann, Los Angeles 53

The Present Status of Liver Function Tests. By T. L. Althausen, San Francisco 53

Recognition of Infected Tonsils. By Benjamin Katz, Los Angeles 54

The Stramonium Treatment of Chronic Encephalitis. By Garnett Cheney 54

STATE MEDICAL ASSOCIATIONS:

California Medical Association 56

Nevada State Medical Association 63

Utah State Medical Association 64

MISCELLANY:

News 66

Medical Economics 67

Correspondence 68

Twenty-Five Years Ago 69

Department of Public Health 70

California Board of Medical Examiners 71

Directory of Officers, Sections, and County Units of the California Medical Association ..... Advertising page 2

Book Reviews ..... Advertising page 11

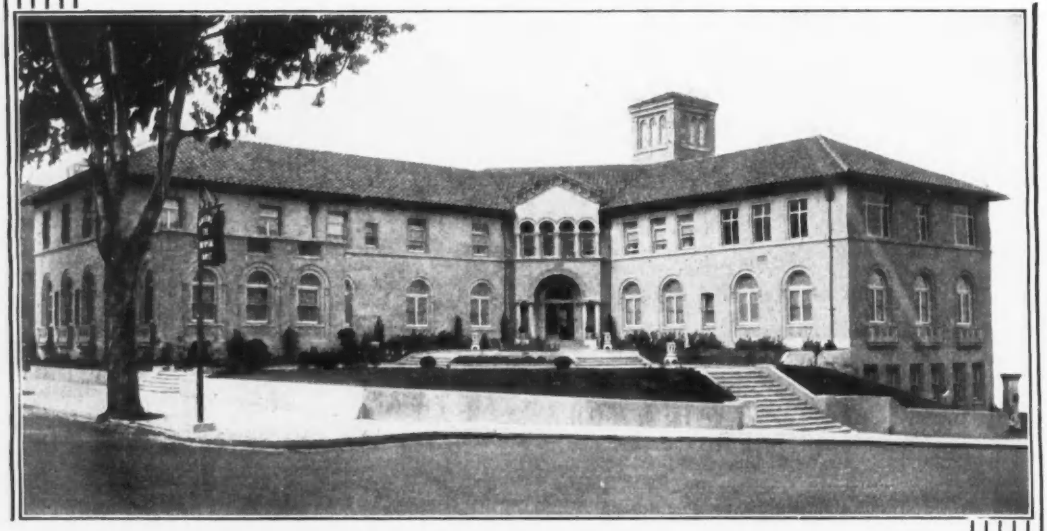
Books Received ..... Advertising page 12

Truth About Medicines ..... Advertising page 19

ADVERTISEMENTS—INDEX: ..... Advertising page 8

"Entered as second-class matter at the post office at San Francisco, California, under the Act of March 3, 1879." Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized August 10, 1918.

GREENS'
EYE HOSPITAL
for Consultation, Diagnosis
and Treatment of the Eye



Resident Staff

Aaron S. Green, M. D.
Louis D. Green, M. D.
Martin D. Icove, M. D.
Einar V. Blak, M. D.

THE HOSPITAL

is open to physicians who are eligible for membership in the A. M. A. Facilities are especially designed for Ophthalmology and include X-Ray, Radium, Physio-Therapy and Clinical Laboratories.

A private out patient department is conducted daily between the hours of 9 A. M. and 5 P. M. A report of findings and recommendations for treatment are returned with the patients who are referred for consultation.

A PART PAY CLINIC

is also conducted from 2 P. M. until 7 P. M. This is for patients of limited income. Examination fees in the clinic are $2.50 for the first visit and $1.50 for subsequent visits. Moderate fees for drugs, laboratory work, X-Rays. Operating fees are arranged according to the circumstances of each individual.

Bush at Octavia Street • Telephone WEst 4300 • **San Francisco, California**

Address communications to Superintendent

California and Western Medicine

OFFICIAL PUBLICATION OF THE
CALIFORNIA MEDICAL ASSOCIATION
ACCREDITED REPRESENTATIVE OF THE
NEVADA STATE MEDICAL ASSOCIATION
ACCREDITED REPRESENTATIVE OF THE
UTAH STATE MEDICAL ASSOCIATION

PRINTED AND EDITED
FOR THE
California Medical Association
Under the direction of the House of Delegates and Council
GEORGE H. KRESS, M. D.
EMMA W. POPE, M. D.
Editors

VOLUME XXXII

JANUARY TO JUNE, 1930

California Medical Association, Four-Fifty Sutter, San Francisco

OFFICERS
of the
CALIFORNIA MEDICAL ASSOCIATION
1930-1931

GENERAL OFFICERS

LYELL C. KINNEY.....*President*
510 Medico-Dental Building, 233 A Street, San Diego

JUNIUS B. HARRIS.....*President-Elect*
Medico-Dental Building, 1127 11th Street, Sacramento

EDWARD M. PALLETTE.....*Speaker of the House of Delegates*
Wilshire Medical Building, 1930 Wilshire Boulevard, Los Angeles

JOHN H. GRAVES.....*Vice-Speaker of the House of Delegates*
977 Valencia Street, San Francisco

OLIVER D. HAMLIN.....*Chairman of Council*
Federal Realty Building, Oakland

T. HENSHAW KELLY.....*Chairman of Executive Committee*
830 Medico-Dental Building, 490 Post Street, San Francisco

EMMA W. POPE.....*Secretary-Treasurer*
Four-Fifty Sutter, Room 2004, San Francisco

GEORGE H. KRESS.....*Editor*
245 Bradbury Building, 304 South Broadway, Los Angeles

EMMA W. POPE.....*Associate Editor*
Four-Fifty Sutter, Room 2004, San Francisco

HARTLEY F. PEART.....*General Counsel*
1800 Hunter-Dulin Building, 111 Sutter Street, San Francisco

HUBERT T. MORROW.....*Assistant General Counsel*
Van Nuys Building, 210 West Seventh Street, Los Angeles

COUNCILORS

MOTT H. ARNOLD (1932), 1220 First National Bank Building, 1007 5th Street, San Diego.....First District
WILLIAM DUFFIELD (1933), 516 Auditorium Building, 427 West Fifth Street, Los Angeles.....Second District
GAYLE G. MOSELEY (1931), Medical Arts Building, Redlands.....Third District
FRED R. DELAPPE (1932), 218 Beaty Building, 1024 J Street, Modesto.....Fourth District
ALFRED L. PHILLIPS (1933), Farmers and Merchants Bank Building, Santa Cruz.....Fifth District
WALTER B. COFFEY (1931), 501 Medical Building, 909 Hyde Street, San Francisco.....Sixth District
OLIVER D. HAMLIN (1932) Chairman, Federal Realty Building, Oakland.....Seventh District
ROBERT A. PEERS (1933), Colfax.....Eighth District
HENRY S. ROGERS (1931), Petaluma.....Ninth District

COUNCILORS-AT-LARGE

GEORGE G. HUNTER (1932), 910 Pacific Mutual Building, 523 West 6th Street, Los Angeles.
RUGGLES A. CUSHMAN (1933), 632 North Broadway, Santa Ana.
GEORGE H. KRESS (1931), 245 Bradbury Building, 304 South Broadway, Los Angeles.
JOSEPH CATTON (1932), 825 Medico-Dental Building, 490 Post Street, San Francisco.
T. HENSHAW KELLY (1933), 830 Medico-Dental Building, 490 Post Street, San Francisco.
EDWARD N. EWER (1931), 251 Moss Avenue, Oakland.

STANDING COMMITTEES

Executive Committee

The President, the President-Elect, the Speaker of the House of Delegates, the Secretary-Treasurer, the Editor, and the Chairman of the Auditing Committee.

Committee on Associated Societies and Technical Groups

George H. Kress, Los Angeles.....1933
Harold A. Thompson, San Diego.....1932
William Bowman, Los Angeles.....1931

Committee on Extension Lectures

Robert A. Peers, Colfax.....1933
James F. Churchill, San Diego.....1932
Robert T. Legge, Berkeley.....1931
The Secretary.....Ex-officio

Committee on Health and Public Instruction

Henry S. Rogers, Petaluma.....1933
Fred B. Clarke (Chairman), Long Beach.....1932
Gertrude Moore, Oakland.....1931

Committee on Hospitals, Dispensaries and Clinics

Gayle G. Moseley, Redlands.....1933
John C. Ruddock, Los Angeles.....1932
Walter B. Coffey, San Francisco.....1931

Committee on Industrial Practice

Mott H. Arnold, San Diego.....1933
Packard Thurber, Los Angeles.....1932
Ross W. Harbaugh, San Francisco.....1931

Committee on Medical Economics

Ruggles A. Cushman, Santa Ana.....1933
John H. Graves (Chairman), San Francisco.....1932
Joseph M. King, Los Angeles.....1931

Committee on Medical Education and Medical Institutions

George G. Hunter, Los Angeles.....1933
George Dock, Pasadena.....1932
H. A. L. Ryfkogel, San Francisco.....1931

Committee on Medical Defense

Fred R. DeLappe, Modesto.....1933
George G. Reinle, Oakland.....1932
J. L. Maupin, Sr., Fresno.....1931
Jesse W. Barnes, Stockton.....1933
Harlan Shoemaker, Los Angeles.....1932
LeRoy Brooks, San Francisco.....1931
The Secretary.....Ex-officio

Committee on Membership and Organization

Committee on History and Obituaries

Emmet Rixford, San Francisco.....1933
Charles D. Ball, Santa Ana.....1932
Percy T. Phillips, Santa Cruz.....1931
The Secretary.....Ex-officio
The Editor.....Ex-officio

Committee on Publications

Frederick F. Gundrum, Sacramento.....1933
Morton R. Gibbons, San Francisco.....1932
Percy T. Magan, Los Angeles.....1931
The Secretary.....Ex-officio
The Editor.....Ex-officio

Committee on Public Policy and Legislation

Joseph Catton, San Francisco.....1933
Junius B. Harris (Chairman), Sacramento.....1932
William Duffield, Los Angeles.....1931
The President.....Ex-officio
The President-Elect.....Ex-officio

Committee on Scientific Work

Emma W. Pope (Chairman), San Francisco.....
Francis M. Pottenger, Monrovia.....1933
Karl Schaupp, San Francisco.....1932
Lemuel P. Adams, Oakland.....1931
Verne R. Mason, Sec'y Sect. Med., Los Angeles.....1931
Clarence E. Rees, Sec'y Sect. Surg., San Diego..1931

Medical
pub
of

CALIFORNIA
AND
WESTERN MEDICINE

VOLUME XXXII JANUARY, 1930 No. 1

INTESTINAL OBSTRUCTION*

SOME MEDICAL ASPECTS

By V. R. MASON, M. D.
Los Angeles

DISCUSSION *by Charles D. Lockwood, M. D., Pasadena; William J. Kerr, M. D., San Francisco; Lowell Langstroth, M. D., San Francisco.*

THE symptoms and physical signs which develop after an acute obstruction of the bowel are familiar to all physicians. By careful deductions it is usually possible to predicate the approximate point of the obstruction, the presence or absence of asphyxia of the bowel and, in many instances, the cause of the obstruction. Nevertheless the mortality rate, in general, remains far too high. An analysis of the records of more than one hundred patients operated upon for obstruction of the bowel at the Los Angeles General Hospital during the past year has demonstrated anew that the delay between the onset of symptoms and the appearance of unmistakable signs of grave shock and toxemia is responsible for the greater number of deaths.

FACTORS CAUSING DELAY

The factors which produce this delay are numerous, but due to their importance will be enumerated in their order of frequency:

1. Much time is often lost applying simple remedies, such as enemata, lavages and hot stupes, in the hope of relieving "gas."

2. In instances of pyloric obstruction from ulcer, faith in pills, powders, and diets not infrequently leads to unwarranted delay of operation.

3. In the more acute cases of small bowel obstruction valuable time is frequently lost awaiting the results of laboratory procedures or gastrointestinal radiographs or consultants' opinions.

4. Frequently the patient cannot be made aware of the seriousness of his condition before the progressing toxemia has made operation hazardous.

5. The abuse of sedative drugs has played a minimal part in causing delay in this series of patients.

Many of these causes of delay are beyond the control of the physician. A number, however, might have been prevented. In very few acute conditions is clinical judgment so important and laboratory studies so unimportant. A flat radiograph of the abdomen in the upright and possibly in the horizontal position, blood counts and an examination of the urine should be made at once and the results should be obtained without occasioning appreciable delay. Blood should be withdrawn for chemical analysis, but operation should not be postponed on this account. Although the results of blood chemistry determinations are quite characteristic, their importance in diagnosis in the early stages of bowel obstruction is likely to be exaggerated. Later, in the progress of the condition these results are of much value, for they give an adequate idea of the severity of the toxemia and, in addition, point to a rational therapy. Since the administration of physiological or hypertonic salt solution should be a routine procedure in all instances of suspected obstruction of the bowel the results of blood chemistry determinations should not be awaited at the expense of earlier operation.

CLINICAL SYNDROME IN BOWEL OBSTRUCTION

The exact cause of the clinical syndrome presented by patients with obstruction of the bowel is not completely known. Earlier work [1] emphasized the importance of the absorption of toxic material, either sterile or contaminated, from the bowel above the point of obstruction. This hypothetical toxic material was of unknown origin and composition, and proof of its absorption from the bowel is still lacking. It is possible that toxic material is formed in an obstructed bowel with damaged mucosa or, indeed, in a normal bowel, but it has been impossible to prove that absorption of such material through the bowel wall is frequently a cause of symptoms or disease.

Later observers have given their attention to the loss of digestive and intestinal fluid, inanition, dehydration, and the profound alterations of the physical and chemical equilibria in the body. They have also reëmphasized the differences between simple obstruction and obstruction with asphyxiated areas of bowel. In the former instance the toxemia is less severe and life may be prolonged for a greater period of time than in the latter. In dogs with simple obstruction *properly treated*, death seems to depend more on starvation than on toxemia.[2] With asphyxiated bowel, or any

* Read before the General Surgery Section of the California Medical Association at the fifty-eighth annual session, May 6-9, 1929.

Table Giving Data from Twenty-five Cases of Intestinal Obstruction

Name	Number	Age	Duration of Acute Symptoms	Amount of Vomiting	URINE			W. B. C.	Temperature	BLOOD			Point of Obstruction	REMARKS	RESULT
					Albumin in	Casts	Reaction			N. P. N.	C_2	NaCl			
J. C.	18818	24	12 hrs.	2+	3+	0	alk	14,200	99[4]		47	429	Jejunum	Bowel viable	Cured
H. D.	44970	38	5 da.	4+	1+	0	ac	6,000	103°	33	67	231		Vomiting and diarrhea	Not operated
M. A.	27445	56	48 hrs.	4+	0	0	ac	22,000			62	346	Ilium	Cyanotic bowel not resected	Cured
Wm. W.	48704	81	12 hrs.	1+	0	0	alk		99		61	330	Ilium	Bowel not cyanotic	Cured
V. S.	45071	68	5 da.	4+	2+	0	ac	15,400	98	42	32	396	Ilium	Gangrene 6 cm. resected	Died
D. L.	47389	54	22 da.	2+	1+	0		10,100	100°		62	297	Ilium	Bowel cyanotic	Cured
F. G.	36762	38	5 da.	3+	1+	0	ac	8,600	98°			379	Ilium	Bowel good condition	Cured
A. J.	35086	40	35 da.	3+	0	0	ac	13,200	99[2]		47.1	231	Ilium	Bowel viable	Cured
M. M.	29303	28	24 hrs.	1+	0	0		8,750	98[6]	33	65	460	Ilium	Bowel viable	Cured
E. M.	28076	30	1 da.	1+	0	0	ac	18,800	99			412	Ilium	Bowel viable	Cured
A. F.	52189	69	1 da.	2+	1+	0	ac	18,100	97[2]	41	61	448	Ilium	Bowel viable	Died
R. G.	53910	59	2 da.	1+	0	0			99		60	363	Ilium	Bowel viable	Died
L. D.	27896	38	2 da.	3+	0	0	alk	7,000	98°			363	Cecum	Adhesions released	Cured
G.B.H.	47730	54	21 da.	1+	0	0	ac	29,800	99	33	58	478	Colon	Resection, partial; colon	Died
R. C.	44427	57	3 da.	2+	0	0	ac	22,000	98°	35		371	Colon	Resection partial carcinoma	Died
G. N.	496	76	2 da.	3+	1+	0	ac	15,400	98		60	462	Sigmoid	Resection sigmoid	Died
J. A. H.	2812	46	14 da.	3+	0	0	alk	11,400	98°		63	363	Pylorus	Gastro-enterostomy	Cured
W. B.	49066	40	30 da.	3+	0	0	alk	7,800	98[8]	42	65	360	Pylorus	Gastro-enterostomy	Cured
P. E.	46018	69	35 da.	3+	0	0	acid	8,500	97°	33	69	346	Pylorus	Not operated	
G. H.	37781	52	180 da.	1+	0	0	alk		98°	33	58	378	Pylorus	Gastro-enterostomy	Died
R. M.	48398	64	14 da.	3+	0	0	alk	7,200	98°	85	77	330	Pylorus	Gastro-enterostomy	Died
A. G.	5171	50	21 da.	3+	0	0	ac	10,050	99°			462	Pylorus	Gastro-enterostomy	Died
R. M.	27181	39	14 da.	3+	1+	0	ac	6,000	99[2]	63		330	Pylorus	Gastro-enterostomy	Cured
J. C.	4528	44	21 da.	3+	0	0	alk		98°		63	460	Pylorus	Gastro-enterostomy	Cured
M.		40	30 da.	3+	1+	0	alk		98°		112	600	Pylorus	Gastro-enterostomy	Died

*N.P.N. as mgm. per 100 cc. whole blood; CO_2 as vol. per cent; Cl as mgm. NaCl per 100 cc. whole blood.

other necrotic tissue free in the peritoneal cavity, grave toxemia is added to alterations produced by simple obstruction.

The use of saline solution in the treatment of obstruction of the bowel was advocated by Hartwell and Hoguet [3] in 1912. Although they believed the relief of anhydremia was the important factor their work deserves much credit. Tileston and Comfort [4] two years later proved that the nonprotein nitrogen fraction of the blood was increased in obstruction. MacCallum [5] and his associates in 1920 showed that hypochloremia and alkalosis accompanied gastric tetany produced experimentally in dogs and that the symptoms could be relieved by the administration of saline solutions. Haden and Orr [6] in 1923 published their first report, and in a series of investigations have added much to the knowledge of the alterations produced by simple obstruction.

The known facts may be briefly stated as follows: At the onset of obstruction, fluid loss occurs by vomiting and probably by secretion into the bowel lumen. This may be accompanied by the loss of as much as five grams of chlorids per liter of vomitus. As a rule the chlorid content of the blood falls rapidly. However, since the sodium content of the blood is decreased little, if at all, the resulting acid-base imbalance is partially compensated by the retention of CO_2, leading to an alkali-excess type of alkalosis. When the CO_2 volume per cent reaches about eighty-five, tetanic symptoms become manifest, but even at this time the p^H of the blood is little altered. Since sodium represents about 92 per cent of the fixed base and chlorid and CO_2 about 96 per cent of the total acid radicles of the body, alkalosis is inevitable in any chlorid loss not quickly restored. Furthermore, since "it is probable that the maintenance of a normal osmotic pressure is of more importance to life than the maintenance of a normal acid-base equilibrium," the loss of large quantities of osmotically active chlorid may be compensated by the retention of the less osmotically active nonprotein nitrogen substances in the blood although some increase in the urinary nitrogen excretion may indicate an abnormally high

body-protein metabolism. Certain alterations of minor importance also occur. The sodium and potassium content of the blood decrease but slightly. Calcium and magnesium are little changed and the quantity of sulphur and phosphorus is increased.

Complete water and electrolyte balances throughout the course of an intestinal obstruction are not available. In consequence, certain important data of great value are still lacking. The fate of the chlorids is not completely known, but observation of clinical cases makes it reasonable to assume that the loss of gastric contents by vomiting is chiefly responsible for the dehydration, increased viscosity of the blood, oliguria, and chloropenia. This explanation seems more likely when one considers that the same phenomena occur in cholera, in severe diarrhea, and in other states associated with vomiting and diarrhea. Brown, Eusterman, Hartman, and Rowntree believed that renal insufficiency might play a part in the toxemia. It seems more logical to assume that the retention of nonprotein nitrogen is compensatory to the chlorid loss. Furthermore, Blum [7] has shown that in certain types of nephritis loss of chlorids by vomiting or reductions of chlorid intake for therapeutic reasons will lead to greatly increased nonprotein nitrogen retention in the blood.

The changes encountered in intestinal obstruction: alkalosis, chloropenia, and retention of nonprotein nitrogen occur in many conditions associated with loss of gastric or intestinal juices and are not diagnostic of intestinal obstruction. Furthermore the toxemia of intestinal obstruction may be severe before these changes make their appearance and, as is well known, this is particularly true when the point of obstruction is high.

DATA FROM TWENTY-FIVE CASES

The important data from the records of twenty-five patients recently observed with various types of obstruction are summarized in the accompanying table. It will be noticed that a chloropenia was practically constant while important degrees of alkalosis or of nitrogen retention were seldom observed. The lowest blood chlorid occurred in a patient suspected at first of having an obstructed bowel but who recovered without operation. The highest chlorid content was observed in a patient with syphilis of the stomach in whom the pyloric obstruction was the indication for gastro-enterostomy. In this instance the patient vomited continuously, but the vomitus contained only traces of chlorids, yet the CO_2 content of the blood was above one hundred volume per cent for several days, and the patient was tetanic. These exceptional cases should call attention to the need of caution in formulating any hypothesis concerning the cause of toxemia and death in acute intestinal obstruction. Further studies of the acid-base balance, of the osmotic balance, and of the part played by anhydremia, inanition and toxemia may easily explain the exceptional cases encountered in any large series.

838 Pacific Mutual Building.

REFERENCES

1. Whipple, G. H., Stone, H. B., and Bernheim, B. M.: J. Exper. Med., 1913, xvii, 286.

2. Foster, W. C., and Hausler, R. W.: Arch. Int. Med., 1925, xxxvi, 31.

3. Hartwell, J. A., and Hoguet, J. P.: Jour. Am. Med. Assoc., 1912, lix, 82.

4. Tileston, W., and Comfort, C. W., Jr.: Arch. Int. Med., 1914, xiv, 620.

5. MacCallum, W. G., Lintz, J., Vermilye, H. N., Leggett, T. H., and Boas, E.: Bull. Johns Hopkins Hosp., 1920, xxxi, 1.

6. Haden, R. L., and Orr, T. G.: Bull. Johns Hopkins Hosp., 1923, xxxiv, 26.

7. Blum, L., and Weil, J.: Bull. et Mém. d. la Soc. Med. des Hôp. de Paris, 1928, xliv, third series, 1611.

DISCUSSION

Charles D. Lockwood, M. D. (65 North Madison Avenue, Pasadena).—My discussion will be limited to acute intestinal obstruction.

Little progress was made in the treatment of this condition up to five years ago, notwithstanding the great improvements in other fields of surgery. Since the epoch-making work of Orr and Haden (*Journal A. M. A.*, August 28, 1927), on blood chemistry in relation to acute intestinal obstruction, chief interest has centered in the toxemia associated with obstruction and a more rational basis has been found for treatment of this serious condition. The most fatal cases are those where obstruction occurs high up, and the toxins in the duodenum are most fatal. There has been much discussion as to the nature of these toxins, whether they are bacterial in origin, or protein bodies.

B. W. Williams of London, in the *Lancet* for April 1927, points out the importance of toxemia due to anaërobes in acute obstruction and peritonitis. The late symptoms of peritonitis are identical with those found in fatal cases of intestinal obstruction. Adynamic ileus is the result of peritonitis and the general manifestations of fatal cases of peritonitis are identical with those of the terminal stages of intestinal obstruction. The chief symptoms in common are rapid pulse, cyanosis, slight general icterus, and especially restlessness and a pathologically acute consciousness up to the very end. Williams points out (what was observed by Army surgeons) that these symptoms bear a striking resemblance to those observed in severe cases of gas gangrene. This led to investigations to determine the part played in acute obstruction by anaërobic organisms. The one most commonly found is *Bacillus welchii*. This organism is constantly present in the intestines and produces a very powerful toxin. The organism grows best in a slightly neutral medium such as is found in the duodenum. In acute obstruction and late peritonitis there is great proliferation of the *Bacillus welchii*.

Williams has been using an antitoxin prepared from this organism at St. Thomas Hospital in London for two and one-half years in acute obstruction and peritonitis associated with paralytic ileus. Only the most severe cases were treated. The series consisted of 256 consecutive and unselected cases, and there were only three deaths in the series. This is indeed a remarkable showing in a type of cases where the normal mortality is around 50 per cent.

This new knowledge together with that made available by Orr and Haden, in their experimental work on dogs, I believe has laid the foundation for a revolution in our treatment of acute intestinal obstruction. The salient facts in Orr and Haden's work are: first, the diminished chlorids in the blood; second, the increase in nonprotein nitrogen; and, third, increased CO_2 combining power of the blood. Orr also showed experimentally that a restoration of the normal chlor-

ids greatly prolonged the life of dogs with intestinal obstruction, and that jejunostomy hastened death. Dogs with intestinal obstruction live longer than those with a simple high jejunostomy. The life of dogs with high obstruction was greatly prolonged by the administration of chlorids. In view of this experimental evidence and the collected statistics in human beings, the value of jejunostomy in intestinal obstruction is of doubtful value. The mere opening of a loop of intestines in no way insures drainage. Peristalsis is essential for this process. The loops of obstructed and paralyzed bowel hang like wet rags over a rope, and only stripping of each individual loop will adequately empty the bowel of its toxic material.

This brings us to the consideration of a more thorough method of operating in early cases of obstruction. Dr. W. B. Holden of Portland, Oregon, advocates complete eventration of the acutely obstructed bowels, and the introduction of a large glass tube, secured in the bowel by a flange around which a catgut suture is tied. All obstructed loops are then quickly emptied by stripping between two fingers of the gloved and vaselined hand. He has reported a series of over one hundred cases in which the mortality has been reduced to 20 per cent in the early cases.

With all of the foregoing facts in our mind, let us outline the course to be followed by the surgeon in these acute cases of obstruction.

1. In cases diagnosed early and operated upon within twenty-four hours do not wait for blood chemistry examinations nor for x-ray findings. Open the abdomen through a lower mid-line incision and seek for the site of obstruction. If it is a band, a twist, or an intussusception that is easily relieved and the bowel is in active peristalsis, no more need be done. If there are many water-logged loops of bowel, eventrate on a hot towel, quickly empty them of their contents, restore them to the abdominal cavity and close without drainage. Either simultaneously with the operation or immediately following, give 2000 cubic centimeters of normal saline subcutaneously.

2. Cases which have been obstructed more than twenty-four hours are usually toxic. Immediate operation is often contraindicated. The surgeon is justified in taking time for a blood chemistry and restoration of the chlorids in the blood. To this end, while waiting the blood chemistry report, 500 cubic centimeters of three per cent normal salt solution should be administered by hypodermoclysis and the stomach washed out. In view of the results obtained by Williams in the use of the *Bacillus welchii* serum, if obtainable, its administration should be begun to counteract the effect of the toxins. Operation should not be performed until the chemical balance in the blood has been largely restored.

Immediate operation releasing the obstruction will only permit a lethal dose of the toxins to escape into the undamaged bowel, where it will be quickly absorbed. As soon as the blood chemistry approaches normal under the continued administration of salt solution, operation should be undertaken to remove the obstructing lesion or, if necessary, resect the gangrenous bowel. The success of operation in these advanced cases depends upon speed and accuracy, and provision should always be made for the escape of gases through a catheter introduced into the bowel above the site of obstruction in such a manner that it can be removed without reopening the wound.

The old dictum, operate immediately in acute intestinal obstruction, should no longer be followed unqualifiedly. Each case must be analyzed and the treatment adapted to the individual case. Already the beneficial effects of the new knowledge are being reflected in the mortality statistics.

✻

William J. Kerr, M. D. (University of California Medical School, San Francisco).—In the main, I am quite in accord with the views expressed by the author in this excellent paper on intestinal obstruction. There is no doubt that many lives are lost because the condition is not recognized early enough and the necessary measures taken to give relief. As the author has stated, many of these factors seem to be beyond the control of the physician. However, it appears to me that if the medical profession would join in a campaign of education the sufferers would hesitate to use home remedies where the results may be of such a serious nature. Physicians also should be more familiar with the dangers of procrastination, particularly in the case of chronic ulcer at the pylorus, and should accept the well-established rule that intestinal obstruction is one of the conditions that demands surgical intervention. We are too free in the use of cathartics and morphin in cases of vomiting, distention, or pain in the abdomen. The latter should most certainly be withheld until after a definite diagnosis is established. The time lost in waiting for results of laboratory studies in many instances endangers the life of the patient. If we would be a little more careful to analyze the symptoms and the progression and to sit down by the bedside for a careful examination of the abdomen with an analysis of the location of the distention and pain and to observe peristaltic waves, we would more often arrive at a diagnosis of the condition and determine the location of the obstruction. Quite often a plain x-ray film of the whole abdomen may reveal more correctly the site of the obstruction. Very often I have found that all the tests that are done only tend to confuse us in our decision as to treatment.

Since in most cases of acute intestinal obstruction the cause is one which requires surgical intervention and the life of the individual depends upon the correction or relief of the obstruction before toxic symptoms have become advanced, we must work with all possible haste but with the greatest clinical judgment. If a large amount of fluid has been lost by vomiting, we can assume that the chlorids are also low and no harm could come from administration of large amounts of fluids and chlorids. The question as to whether the content of the bowel should be emptied and whether the segment of the bowel should be resected depends entirely upon conditions at the time. There is no doubt that removal of large quantities of fluid from a paralyzed or inactive bowel has been of great value in treatment. I have not personally had any experience with the use of antitoxins for *Bacillus welchii*. Doctor Lockwood, in his discussion of Doctor Mason's paper, calls attention to the group of late cases where there has been much loss of fluid and where alkalosis has developed. I quite agree with him that in such cases operation is extremely hazardous and that in this very case it may be more important to the patient to try to restore the fluids and the acid-base equilibrium with a replacement of the chlorids before any operative measures are attempted.

In closing, I should like to suggest that if we are to reduce the mortality in intestinal obstruction still further, we should attempt a program of education for the medical profession as well as for the public so that this condition may be early recognized and properly treated. Great success has come from treating the diabetic through proper instruction in impending coma. Since a great majority of the acute intestinal obstructions are complications occurring in those who have had previous abdominal or intestinal conditions, we are in a position to give them certain suggestions which may save hours and, therefore, many lives when such accidents develop. Furthermore, we may prevent the use of home remedies, which are a contributing cause of mortality in many cases.

✻

Lovell Langstroth, M. D. (490 Post Street, San Francisco).—Doctor Mason reviews briefly the best modern knowledge of the physiologic disturbances caused by intestinal obstruction and reports the results of its application in twenty-five cases. I can add no further interpretation or discussion.

MEDICAL CARE OF PEPTIC ULCER*

By HOWARD R. HARTMAN, M. D.
Rochester, Minnesota

A PEPTIC ulcer is a benign lesion of the stomach or duodenum. Perhaps it is secondary to a localized change in the wall of the viscus that in turn is followed by a digestive phenomenon evident at the site of the ulcer. The healthy stomach and duodenum have an inherent protective mechanism against autodigestion; this may be deranged by interference with the blood supply and consequent local structural change in the wall. At this point digestive phenomena may cause loss of tissue and the formation of an eroded, ulcerated lesion. This is purely a hypothesis that seems logical in the light of clinical observations and the study of laboratory data. Preliminary injury to the region where ulcer occurs can be produced experimentally by a host of detailed ways that can be considered in groups: (1) alteration of specific nervous function; (2) mechanical and chemical injury to the wall, directly or through the blood supply; and (3) attack on the wall by bacteria carried in the blood from a distant focus. Durante, after studying seventeen possible ways of producing ulcer experimentally, conducted a series of experiments on the nervous system of animals, and concluded: "Ulcer may be produced by any agent capable of damaging the sympathetic nervous system, as it is on the integrity of this system, which controls circulation, secretion and profound sensibility in the stomach, that the very life of the gastric cell may be said to depend. The theory of trophic ulcer must be taken in this sense." The manner in which strong psychic stimuli are capable of altering normal vasomotor control is known. Blushing is an example. How psychic stimuli affect not only gastric secretion and motility, but the secretion of other glands and organs also is known. This possible factor, the psychic state, requires consideration in the study of the etiology of ulcer. Furthermore, it seems to be an important factor in effecting a cure for ulcer.

Mann and Williams stated the belief that injury at the time of an experiment, and gastric digestion, lead to ulceration. Mann noted acute ulcers in cats and dogs after the suprarenal glands had been removed. Ulcers developed, also, when the pancreatic juices were excluded and the fluids that bathed the tissues were acid in reaction. These two instances are classical examples of a host of reported experiments that illustrate the chemical and the mechanical theory for the origin of ulcer. These theories are well enough established to have their influence on the medical treatment of ulcer.

Although bacteria in association with ulcer were noted in 1874, to Rosenow goes the credit of establishing the elective localization of bacteria. At The Mayo Clinic his principles are in constant clinical application in the treatment of ulcers as well as of other infectious diseases. Reeves, by injection of gelatin into the arteries that supply the stomach, demonstrated end capillaries at the usual site of ulceration in the stomach and duodenum. This offers an anatomic basis for the localization of infected emboli at the usual site of ulceration.

The exponent of each hypothesis concerning the development of an ulcer can disprove that of his opponents by his data. I believe that an ulcer does not develop from a single process, but that a combination of events is required. It may be that a single insult from one or more of the possible causes will not produce a chronic ulcer, but that constant repetition of the offense will lead to the classical peptic ulcer. The term "peptic ulcer" implies digestion of protein material carried on by the pepsin of the stomach. Pepsin is active only in the presence of adequate free hydrochloric acid. If one can neutralize that acid in or out of the stomach, digestion by pepsin cannot take place. As a corollary, one would expect that an ulcer of the stomach or duodenum could not be active in the presence of anacidity. I have yet to be convinced of the contrary. One might argue that duodenal ulcer could arise because of digestion by pancreatic juice. Proof of this is lacking, and the contrary has been shown. Still, I am open to conviction. Eusterman, in an unpublished study, reviewed forty-three surgical cases in which persistent achlorhydria was present but in which an ulcer was discovered at operation. However, the surgeon reported that most of these ulcers were healed.

The foregoing remarks are prefatory. Medical treatment of ulcer must be directed against the several causative factors mentioned. Preferably, it should be carried out in a hospital where the patient is under daily observation and control. It is essential to begin the treatment with complete, or nearly complete, neutralization of the free hydrochloric acid, and cure depends on one's ability to hold the acids in check after a period of complete neutralization. It is possible to do this in properly selected cases, and in making the selection it is necessary to consider several matters: (1) the status of the ulcer; (2) complicating surgical conditions; (3) the social status of the patient; and (4) the native intelligence of the patient and his willingness to coöperate and carry on when not under supervision.

The Status of the Ulcer.—Mechanical defects in the digestive system must be dealt with mechanically. Obviously a scarred, contracted, pyloric outlet which is the result of repeated periods of exacerbation, healing and contraction, will not be enlarged by diet. The pain and hyperacidity might be controlled, but retention of gastric content as evidenced by vomiting of the retention type or by the finding of gastric residue on intubation, could not be relieved. The procedure in acute perforation of ulcer is not open to question. Chronic perforation demands operation if some mechanical irregularity results, although perforation temporarily cures the ulcer. Repeated

* From the Department of Medicine, The Mayo Clinic, Rochester.

* Read before the Nevada State Medical Association, Elko, September 27-28, 1929.

profuse hemorrhages preclude medical treatment; isolated or infrequently repeated hemorrhages do not. Operation does not guarantee freedom from hemorrhage. Uncomplicated gastric ulcers respond readily to medical treatment. However, unless the patient can be kept under observation for years, one hesitates to treat gastric lesions medically because of the fear of carcinoma being present in the ulcer, or because of the fear that it will develop. A duodenal ulcer practically never becomes malignant.

Complicating Surgical Conditions.—If such a condition as cholecystitis or appendicitis is discovered it demands primary attention. In the course of the operation for such a disorder, if the patient's condition warrants it a conservative operation for relief of the ulcer can be undertaken. However, the surgeon's experience should be sufficiently broad to enable him to decide that surgical and not medical care offers the best chance of cure. Frequently, visualization of an ulcer by roentgenologic methods, or at the operating table is too tempting to an ambitious surgeon. Many completely healed ulcers probably have led to needless gastro-enterostomy, pyloroplasty, excision, and resection of the stomach.

Social Status of the Patient.—No matter how carefully one starts a course of medical treatment, it must be completed to accomplish its purpose. If acidity is controlled by care of the patient in hospital and he is made symptom-free only to find that his resources are exhausted, and that he must return to his job with the section or road gang, he finds himself subject to those factors that led to the development of his ulcer and he has recurrence of symptoms. In such a case the treatment is not to be considered inadequate. However, the patient should not have been accepted as a subject for trial of the medical regimen. It would have been better for him to take the shorter, surgical route to health.

Native Intelligence of the Patient and His Willingness to Coöperate When Not Under Supervision.—It is discouraging to find a patient who demands food that pleases his taste in spite of its possible effect on his ulcer. It is hopeless to have some patient report that he does not like milk, and consequently to have him demand that something else be prescribed for him. The patient who says that he is starving, when the intake of calories is adequate and has been calculated for his needs, is not a suitable subject to undergo the medical regimen. And then it is disheartening to find that a patient who has followed your advice to the letter as long as you made daily calls, has disregarded your advice as to his future conduct, because he was feeling all right. In spite of all one may do, ulcers may recur; but the number of times that this happens is probably in direct proportion with violation of principles designated to prevent it.

OBJECTS OF MEDICAL TREATMENT

After the patient has been properly selected what is to be done? Needless to say, all the information regarding acidity, roentgenologic evidence as to the kind of ulcer present, and the evidence concerning foci of infection in teeth, tonsils or prostate gland must be at hand. The first object of the treatment is to neutralize acidity. Gastric acidity is produced under the influence of the nervous system, the chemical nature of the food, and its physical properties. To my mind, the neurogenic theory of the stimulation of gastric glands to the production of hydrochloric acid is the most potent. Patients who have ulcer are all stimulated; they usually come from only one stratum of society, only from those who have ambition, and usually ambition greater than their physical endurance and nervous stability. Not infrequently they are passing through some nervous crisis at the time the ulcer develops and each added shock to the nervous system is reflected in an exacerbation. I had a friend, an influential stock broker, who made each customer's problems his problems. I knew this man to have an ulcer for years, and I observed that his gastric upsets were coincident with the depressions in the stock market. I have now on my service at the hospital a woman, aged thirty-three years, who is married to a man aged sixty years. The marriage took place ten years ago. The man has money. She says that she has had ten induced abortions each after gestation of three months, and she wears diamonds. Her husband is jealous, demands constant attention to his wants and infirmities, but cannot recognize symptoms in his wife. He has demanded her constant presence for ten years. The picture, I think, is clear. She has a chronic duodenal ulcer, with a crater.

There is no need to multiply illustrations. The cause of this strain may be very elusive; detailed search is often necessary to find it. Yet it is imperative to be able to discuss it with the patient, for, I think, by so doing you help him as much as by drugs and diet to get rid of his ulcer. I do not profess to be a psychiatrist or neurologist. Nevertheless, I feel that if one can gain the confidence of the patient, and by a subsequent hint can cause him to relate the tale of woe that in some way affects the nervous system, perhaps the sympathetic nervous system as suggested by Durante, one often can disclose one of the causes of ulcer and hyperacidity. A great deal of help for this jaded nervous system is to get the patient out of his environment. At home in bed, or in a hospital in his home town, the factors which are nervously irritating are too prevalent, even under the best of circumstances. That is why I think medical treatment for ulcer is most effective when the patient is in a strange place. As more specific treatment while in the hospital, the patients are given some sedative. Phenobarbital, gram 0.097 (grains 1½) once or twice a day, or perhaps bromids, or sodium iso-amylethyl barbituric acid, gram 0.097 (grains 1½) are beneficial. I feel certain that the neurogenic influence in ulcer prepares the soil for the inflammatory lesion that is called peptic ulcer. Certainly, correction of the

nervous condition as far as possible, is essential to cure, medical or surgical.

Now, assuming that the malfunctioning nervous system is understood and adjusted, the food chosen must be such as will reduce acidity. Certain foods have within themselves chemicals called secretagogues, which chemically irritate the gastric mucosa to produce free hydrochloric acid. Notorious among such foods are the red meats; to a less degree, other meats. The proteins of milk and eggs are practically free of secretagogues. Hence at first meats are eliminated from the diet and milk alone is used; later, eggs in suitable form are added. Another method by which free hydrochloric acid is produced is by mechanical irritation of the mucosa. Consequently in attempting to reduce the quantity of free hydrochloric acid rough foods are eliminated from the diet. Even when the patient is pursuing an ambulatory regimen, after dismissal from the hospital, foods that are necessary for maintenance of an adequate intake of salt and vitamins and for a balanced diet, but which are rough and fibrous, should be served in the form of purées. None of the food should be excessively hot.

TECHNIQUE OF THE TREATMENT

The method of feeding patients while they are in the hospital is as follows: 90 to 120 cubic centimeters (three to four ounces) of a mixture of milk and cream, 50 per cent of each, are given every hour from seven o'clock in the morning until nine o'clock in the evening, for seven days. In many patients, perhaps in most patients, such a diet alone is not adequate to keep the free hydrochloric acid neutralized. Consequently, alkalis are administered on the half hour, only in sufficient quantities to control the acidity, as determined by aspirations of the gastric content and its analysis. Aspirations are begun on the third or fourth day of treatment; the small Rehfuss tube is used. Occasionally alkalis can be omitted, and if so, so much the better, for all alkalis are known to have a tendency to produce alkalosis, except perhaps a few newer ones, if we can believe the claims of the manufacturers. The aim is to minimize the amount of alkali given and yet control the acidity. At the onset, one of two powders is given on the alternate half hours, as follows; number one is made of calcium carbonate gram 0.65 (grains 10) and bismuth gram 0.50 (grains 8); number two, of calcium carbonate gram 0.65 (grains 10) and magnesium oxid gram 0.85 (grains 13). The magnesium has a secondary value in helping to overcome the constipation that is secondary to a concentrated diet. This amount of alkali is often found to be in excess of the patient's needs; occasionally more is required. If it becomes necessary to exhaust all means known to neutralize the acidity a poor outcome can be predicted whether medical or any other treatment is used. In difficult cases, especially when aspiration of gastric content reveals hyperacidity and hypersecretion, belladonna given in divided doses until the physiologic effect is obtained is of great assistance. In neurotic patients who have pylorospasm belladonna has no equal. Doses of ten to fifteen drops three times a day are used. Blonde persons do not tolerate belladonna as well as do swarthy persons. Constipation is to be avoided; any one of the many preparations of mineral oil, with agar, can be given with advantage to action of the bowels and without bad effects on the ulcer; in fact, I think it helps healing of the ulcer.

All feedings end at nine o'clock in the evening and are not resumed until seven o'clock in the morning. These ten hours without food occasionally lead to secretion of acid, with symptoms. The symptoms call for nocturnal intubations that reveal the acidity, the neutralization of which brings relief. Rather than to let the patient wait for the development of symptoms before neutralization is attempted day or night, it is best to anticipate the symptoms and to neutralize the acid before it has accumulated in sufficient amounts to produce symptoms; consequently, when distress at night is once reported, the patients are given feedings and powders at night. Usually feedings at intervals of two hours during the night are more than adequate, and often one or two feedings are found to suffice. Except in stubborn cases, four to six nights are usually all that are required for training the stomach to be at rest during the sleeping hours.

Medicines and diet cannot overcome irregularities in conduct; coöperation is what cures ulcers. It is a tragedy to most patients who have ulcer to ask them to stop the use of tobacco. Nevertheless it must be done. Tobacco does not cause ulcer any more than meat causes ulcer; yet tobacco has a tendency to increase gastric secretion and acidity. An old German friend of mine once said, "A big meal is a fine thing because you can smoke so much better afterwards." The large meal created a need for more gastric juice, and the tobacco supplied the stimulus. More scientific proof of the effects of tobacco on gastric digestion was demonstrated by one of our laboratory physicians who had an ulcer. He poohpoohed the idea that smoking was detrimental until he experimented on himself. With a small Rehfuss tube in place, he studied his gastric contents while he was using tobacco and while he was not using it. He found that he could cause an increase in the acidity of his gastric content to various levels, depending on the number of cigarettes he smoked.

Alkalis are given every hour until the end of the three weeks of hospitalization, unless toxic symptoms develop. There is danger of giving alkalis to excess and of producing certain prodromal symptoms which become accentuated into definite symptomatic reactions corresponding with the changing chemistry of the blood. These symptoms can be increased even to the point of tetanic convulsions unless the administration of alkalis is materially reduced or stopped. Rivers reported at length on observations relative to alkalosis. Since we have recognized this condition at the Clinic we have not seen a typical case of alkalosis develop under treatment, not only because we have learned that we can administer smaller

amounts of alkalis than usually are prescribed and still bring about neutralization of the acids, but also because we have learned to recognize those prodromal symptoms which tell the physician that the condition of the patient is bordering on intoxication. One of these symptoms is aversion to milk. The patient complains that the milk is too rich or has too much the "taste of a cow." This is associated with a little nausea and a headache of low grade. In the more severe forms, the nausea assumes the proportions of vomiting, and the headaches become worse. Should these symptoms not be recognized and the treatment be persisted in, prostration, with profuse perspiration, develops; at this time, if not before, one finds that there is an elevation in the blood urea and in the carbon dioxid combining power of the blood, with diminution of the chlorids. I have not found it necessary to analyze the blood for this altered chemistry, because, at the first sign of intoxication, that is, aversion to milk and a little headache, administration of all alkalis is stopped. Usually the order is given that administration of milk be interrupted and that the patient be given a soft diet. Fruit juice, preferably orange juice, is given in doses of four ounces every few hours if necessary. From twenty-four to forty-eight hours of such treatment makes it possible, in many cases, to resume the previous treatment and to continue it without interruption. Occasionally, however, it is not possible to carry on the treatment to its completion because the patient is intolerant of the alkalis and the diet.

In the second week the patient's diet is increased a little. Milk soups, gelatin, cooked cereals, with cream, custards, and the like, are served three times a day. The feedings of milk and the alkalis are kept up on the half-hourly basis.

During the third week the diet is materially enlarged. Practically only those foods that either by chemical or mechanical action stimulate gastric acidity are eliminated, and during this third week of hospitalization the patient continues the half-hourly feedings of alkalis and milk. If the patient has lost weight during the early period of the treatment, the lost weight is regained by this forced diet, in which the intake usually is in excess of the 2000 calories a day. On dismissal from the hospital the patient is admonished not to depart from instructions because of the penalty of an exacerbation of the ulcer. His meals are patterned after the third week diet with sufficient calories for an ambulatory life. Milk is taken only midway between the three regular meals. He is cautioned as to his environment and mental and physical strains, principally the former. He is urged not to revert to the use of tobacco, to abstain from condiments, to take at least six alkaline powders a day, one an hour before and one an hour after meals, to be certain of adequate hours of rest, and to follow this regimen for a period of six months. At the end of six months, a report usually is requested.

All foci of infection should be eradicated. This declaration is based on experimental research. Infected teeth and tonsils should be removed and occasionally prostatic massage is indicated. Many times the judgment as to what is an infected tooth plays an important part in bringing about a cure. According to the interpretation of the dental roentgenographic film, which is applied by my associates and me, any dead tooth or any tooth with a devitalized root is infected, irrespective of whether bacterial action has gone on to rarefaction of the bone that is evident roentgenographically. Eradication of foci usually is begun in the second or third week of treatment in hospital.

The contraindications to medical treatment of ulcer are few. Patients with nephritis, of course, do not tolerate well the alkaline treatment, and the same is true of persons who are suffering from so-called essential hypertension. Elderly persons do not withstand vigorous alkalization. Under such circumstances one must temper the treatment according to the complicating factors, but as a rule all persons who are suitable subjects stand the treatment very well. Experience at the Clinic has led us to believe that if, in the first few weeks of treatment, a patient makes prompt symptomatic response, and if the chemical analysis of the gastric content shows that the acids are easily controlled, the prognosis is good whether the medical regimen is continued or whether operation is performed.

SUMMARY

Active peptic ulcer probably is caused by multiple factors. Experimental data offer theoretical explanations of the causes of ulcer in the human being, namely: neurogenic influences, traumatic influences, and occult foci of infection. The activity of an ulcer seems to depend on the degree of free hydrochloric acid present. An active ulcer cannot exist in the presence of anacidity. Nonsurgical relief is possible by removing the inciting factors as completely as possible and by neutralizing, with a suitable diet and alkalis, the acid that is formed in spite of means to reduce secretion. The diet prescribed is free from chemical, thermal, and mechanical irritating factors. Cooperation and good general conduct of the patient, together with continuance of a suitable diet and medication after leaving the hospital, for a period of months, are of vital importance in the ultimate cure. Of equal importance is removal of occult foci of infection.

The Mayo Clinic.

REFERENCES

Boettcher, H.: Zur Genese des perforirenden Magengeschwürs, Dorpater Med. Ztschr., 1874, v, 148-151.

Durante, Luigi: The Trophic Element in the Origin of Gastric Ulcer, Surg. Gynec. and Obst., 1916, xxii, 399-406.

Mann, F. C.: A Study of the Gastric Ulcers Following Removal of the Adrenals, Jour. Exper. Med., 1916, xxiii, 203-209.

Mann, F. C., and Williamson, C. S.: The Experimental Production of Peptic Ulcer, Ann. Surg., 1923, lxxvii, 409-422.

Reeves, T. B.: A Study of the Arteries Supplying the Stomach and Duodenum and Their Relation to Ulcer, Surg., Gynec. and Obst., 1920, xxx, 374-385.

PULMONARY TUBERCULOSIS*

THE IMPORTANCE OF THE CLINICAL HISTORY IN ITS DIAGNOSIS

By F. M. POTTENGER, M. D.

Monrovia

DISCUSSION *by Philip H. Pierson, M. D., San Francisco; William C. Voorsanger, M. D., San Francisco; A. L. Bramkamp, M. D., Banning.*

EARLY tuberculosis is a curable disease. This is true both of the insidious type and of the type with acute onset. The detail in the method of treating early cases of the insidious type must necessarily differ from that instituted in treating the more acute types. While they cannot all be successfully treated by the same method, yet modern medicine has devised ways by which nearly all of the early limited lesions can be brought to a satisfactory issue, whether the onset be insidious or acute.

Such favorable results, however, can only be attained regularly by the prompt institution of the proper remedial measures before extensive destruction of lung tissue has taken place, and before serious inroads have been made on the patient's resistance; and further, before healing is complicated by insurmountable mechanical problems.

UNDERLYING BASIS FOR CURE IN TUBERCULOSIS

Early diagnosis and immediate adequate treatment is the only procedure which can make tuberculosis a curable disease in the great majority of instances. Delay, while it does not necessarily produce a hopeless condition, as was formerly believed, is nevertheless the one greatest factor which stands between the tuberculous patient and a life of usefulness. This fact must be emphasized until it always stands uppermost in the minds of the doctor and the patient when a diagnosis of early tuberculosis has been made.

The diagnosis of tuberculosis in instances of frank disease is comparatively easy. The knowledge possessed by the well-trained practitioner should be sufficient. It is only in the difficult cases that there should be much doubt.

Many practitioners do not have sufficient experience to become expert in the diagnosis of difficult cases. These will require the opinion of specialists. But careful history taking, as I shall attempt to show in this paper, with analysis of the elicited symptoms, will make the diagnosis fairly certain in nearly all instances of frank disease, and will make the diagnosis probable in a very large percentage of positive border-line cases.

Probably 80 per cent of cases of early clinical tuberculosis can be placed in the class of "probably" or "definitely tuberculous" by the analysis of a carefully taken clinical history alone. This statement is made in face of the fact that tuberculosis does not make itself known in any set way.

The disease, when it becomes sufficiently pronounced to be a clinical entity, is recognized by the fact that it causes disturbances in the body's normal physiologic activity. The clinical history should reveal its course from the time that symptoms first manifest themselves up to and including the time of examination.

SYMPTOMS AND THEIR CAUSES

In order to appreciate the nature of symptoms in tuberculosis one must understand what takes place from the time of infection until clinical disease manifests itself.

Tuberculosis differs from the acute infectious diseases in that the latter, as a rule, consist of one single episode of infection and immunity response, while tuberculosis consists of many such episodes. In the acute infections the patient either dies or develops a more or less lasting immunity to the causative microörganism. A succeeding infection of the same nature is occasionally met, but only rarely. In tuberculosis, on the other hand, the whole clinical course of the chronic disease consists of repetitions of bacillary inoculations and immunity responses with the production of never more than a relative immunity.

In chronic tuberculosis, reinoculations occur in an immunized host and therefore differ from the primary infection. The host being already immunized by previous infection, the immunity response to the reinoculations does not await the usual prodromal stage (which is the period necessary to bring the host's immunizing mechanism into play) but starts at once. If a sufficient number of bacilli engage in the reinoculation, an inflammatory reaction of varying severity depending upon the degree of allergy present is immediately called forth, by which toxins are set free, and pulmonary nerves and local cells are at once irritated, producing disturbances in the host's physiologic equilibrium. These departures from normal physiologic action are recognized as symptoms of tuberculosis. Not only do the symptoms appear sooner, but they are apt to be more pronounced than those due to a primary inoculation, caused by equal numbers of bacilli.

The immediate reaction of the host to primary infection is mild and symptomless. Cells proliferate and attempt to wall the bacilli in, forming tubercles; but there is no general widespread body reaction until multiplication of bacilli with the elaboration and dissemination of tuberculoprotein into the tissues has taken place, and the specific defensive forces of the host have been thereby aroused.

If the numbers of bacilli engaged in reinoculation are few, the reaction will be mild and may be symptomless; but if the numbers engaged in the process are sufficiently large, then recognizable

* Read before the General Medicine Section, California Medical Association, at the Fifty-eighth Annual Session, May 6-9, 1929.

TABLE 1.—*Etiological Classification of Symptoms of Pulmonary Tuberculosis*

Group 1 Symptoms Due to Toxemia and Other Causes Acting Generally	Group 2 Symptoms Due to Reflex Cause	Group 3 Symptoms Due to the Tuberculosis Process per se
Malaise	Hoarseness	Frequent and protracted colds (tuberculous bronchitis)
Lack of endurance	Tickling in larynx	Spitting of blood
Loss of strength	Cough	Pleurisy (tuberculosis of pleura)
Nerve instability	Digestive disturbances (hypermotility and hypersecretion) which may result in loss of weight	Sputum
Digestive disturbances (hypomotility and hyposecretion)	Circulatory disturbances	
Metabolic disturbances resulting in loss of weight	Chest and shoulder pains	
Increased pulse rate	Flushing of face	
Night sweats	Spasm of muscles of shoulder girdle	
Temperature	Diminished motion of affected side	
Blood changes		

symptoms of disease appear within a few hours after the infection has taken place.

ALLERGY IN TUBERCULOSIS

Allergy produces its effects on the host in the following ways: (1) it hastens the elaboration of tuberculoprotein in the focus of infection; (2) it results in the death of both bacilli and tissue cells; (3) through its inflammatory effect on the nerve endings in the tissues it causes reflex symptoms to appear in other tissues and organs; and (4) acting locally, it produces certain recognizable effects in the tissues which are the seat of the lesion.

THREE GROUPS OF SYMPTOMS PRODUCED

These modes of action produce three groups of symptoms, each group having a distinct etiologic cause. The first two produce the toxic group; the third, the reflex group; and the fourth, the local group or those caused by the tuberculous process *per se*. I first proposed this grouping of symptoms in 1913 and have used it continuously in my practice since. I find it very helpful in that it explains what is going on within the lung. It also proves very helpful in differentiating difficult border-line cases.

The important symptoms so grouped appear in Table 1.

ADVANTAGES OF PROPOSED GROUPING

Two important advantages of considering symptoms according to this grouping are: first, that of showing what it is that is operating to disturb the patient's well-being; and, second, through what agencies such disturbance takes place. The allergic inflammatory reaction is responsible for the production of the symptoms in each group.

Nerves, endocrines, electrolytes and cells generally are structures through which the agents act in the production of the symptoms of the toxic group, because they are caused by circulating toxins acting generally throughout the body.

Afferent and efferent nerves and the tissues in the limited area which come under the influence of the efferent impulses cause the reflex group.

The allergic inflammation acting directly on the tissues is responsible for the symptoms of Group 3.

It is evident that the symptoms which indicate the presence of tuberculous disease vary with the dose of bacilli responsible for the reinoculation, the amount of tuberculoprotein which gains access to the circulating blood, the reacting capacity of the patient, and the manner in which the disease progresses thereafter. It is also evident that different degrees of sensitization of body cells result from similar inoculations in different individuals because of the different reacting qualities which are manifested by individuals possessing different cellular reactions.

While bacilli have no power of locomotion within themselves, yet so long as avenues of escape remain for bacilli which are contained within active tuberculous foci, they will gain access to adjacent tissues and through the lymph and blood and natural channels be carried out into other tissues. If the numbers of migrating bacilli are few, and the amount of bacillary protein gaining access to the body fluids is small, reinoculations may take place at frequent intervals without causing any recognizable symptoms; for while they stimulate and act upon the immunizing mechanism qualitatively, the same as large doses of bacilli, or larger quantities of tuberculoprotein, they produce a scarcely perceptible effect quantitatively. The resulting allergic reaction may be so slight as to be microscopic and so, of course, produce no recognizable symptoms; or, it may be more marked and still not be discernible; or, it may be so severe as to precipitate a marked defensive response on the part of the host with a toxic syndrome comparable to that which accompanies the acute infections. In fact, such a reinoculation is accompanied by the same episode of immunity response as characterizes such diseases as diphtheria, scarlet fever or measles.

Again bacillus bearing discharges which are cast off into such natural channels as the bronchi may plug the same and thus cause a retention of bacilli *in situ* until they have initiated an infection. Such an infection as a rule would produce an abrupt onset of symptoms. We do not believe this occurs often in the beginning of pulmonary disease except following the rupture of a caseating bronchial gland, yet we must accept it as not an uncommon possibility in the extensions which

take place from pulmonary foci to unaffected tissue during the course of advanced tuberculosis.

There is probably a period in all early active tuberculous infections, either before or after they have made themselves known by frank symptoms, when bacilli are carried in minimal numbers through the body fluids from existing foci to new tissues, and when tuberculoprotein circulates in the body fluids in minute quantities. The resulting reaction may be so slight that it produces no recognizable disturbances in the physiologic equilibrium of the host. No doubt, many borderline cases which react markedly and quickly to the cutaneous and intradermal application of tuberculin in the presence of indefinite and inconclusive symptoms and thus puzzle the examiner in forming a conclusion as to whether or not active tuberculosis is present, belong to this class. They are potentially tuberculous but may not become actually clinically ill unless larger reinoculations take place. A clinical history in such cases is not conclusive. Further evidence must be found on which to base a diagnosis.

Frequently repeated reinoculations, too, may be caused by larger numbers of bacilli; and, larger quantities of tuberculoprotein may escape from existing foci, and still the reaction not come within the domain of distinct acute inflammation with its marked toxic and reflex symptoms, such as characterize the acute infections. The patient may have a slight elevation of temperature, a loss of vigor, fatigue, possibly lack of appetite and loss of a few pounds in weight, yet be unable to point to a definite episode of immunity reaction such as would characterize an acute allergic response.

The pathology in these cases consists of slight inflammatory phenomena, but so slight that they may be detected only with difficulty by the usual procedures of physical examination, or by the x-ray, except after a tuberculin reaction of sufficient magnitude to change the mild allergic reaction of a predominantly proliferative character to one of a predominantly exudative (parenchymatous) character.

Tuberculosis of this type in an active form may be present for quite a period of time before it causes sufficient symptoms to make a diagnosis definite; in fact, may heal before causing sufficient symptoms to make the diagnosis definite.

On the other hand, when tuberculosis shows itself as a frank disease, with a marked immunity response accompanied by an acute toxic reaction there nearly always will be reflex phenomena present, and often, too, evidence of the local reaction of the disease in the tissues such as sputum, a pleural involvement or an hemoptysis, to make the diagnosis quite evident.

It is necessary for the profession to know that the disease may come on insidiously with small reinoculations and no frank symptoms, or abruptly with acute toxic mainfestations, for much of the teaching in the past has not taken this sufficiently into consideration.

It is very desirable but quite impossible to assign definite values to the different symptoms. This is impossible because different people react differently to the same stimulus; and, further because different organs in the same individual may show differences in their response; and, still further, because the reinoculating doses of bacilli are variable in size and virulence.

DIAGNOSTIC VALUE OF SYMPTOM GROUPS

The three groups of symptoms vary greatly in their diagnostic value. The toxic or general group is characterized by the fact that it represents harmful influences which affect structures throughout the body; nerves, endocrine glands, and body cells. The symptoms which accompany the acute reaction following a reinoculation with fairly large quantities of bacilli, is qualitatively the same as that which follows reinoculations of milder degree, and similar to the symptoms which accompany neurasthenic and psychasthenic states or conditions of hypo- or hyperactivity in certain endocrine glands, such as the thyroid, gonads and adrenals; but they differ in severity. Nor does the acutely toxic state in tuberculosis differ in symptomatology from the acutely toxic state in other infections; so there is nothing significant or of differential diagnostic import in the symptoms of Group 1. They must be combined with symptoms of Groups 2 and 3 to possess diagnostic worth. They only show that some factor or factors are producing a widespread injury to the body tissues and functions.

Symptoms belonging to the reflex group, on the other hand, possess considerable diagnostic value, even on their own account. Irritation of the larynx, hoarseness and cough are one or all usually present in early clinical tuberculosis, but they do not possess so great localizing worth as the reflex spasticity which involves the skeletal muscles; for the cough reflex may be produced by stimuli arising in many tissues other than pulmonary. The value of the reflex symptoms is greatly increased by the fact that some symptoms of Groups 1 and 3 are nearly always present at the same time, or, if not present, there is a history of their presence in the near past; and the combination of the symptoms of the two or three groups is decidedly more suggestive than those of one group alone.

When the lung is the seat of allergic reaction, as it always is in active pulmonary tuberculosis, stimuli are carried to the central nervous system over the visceral nerves; and transferred to those muscles which receive their innervation from the midcervical segments of the cord, causing them to show reflex spasticity. This may be detected as an increased tension and as an uneven contracture of the muscle bundles on palpation, and may also be inferred from the lessened motion of the hemothorax corresponding to the lesion if it is

one-sided, or, from the detectable asymmetrical movements when both sides are involved. Lagging thus when properly evaluated becomes an important sign of active pulmonary inflammation.

The structures involved are the sternocleidomastoideus, scaleni, pectorales, subclavii, trapezii, levator anguli scapulae and rhomboidei muscles, and the crura and central tendon of the diaphragm.

This spasticity and the effects which it exerts is of the greatest diagnostic worth and when combined with subjective symptoms of a reflex or toxic nature immediately fixes attention upon the lung because of its definite localizing nature.

Flushing of the face is also of value, but we rarely see it as one of the early symptoms. It is more apt to appear after the lung has been the seat of disease for some time.

The symptoms of Group 3 are of the greatest diagnostic import. They are subjective symptoms about which the patient will tell you. They have no more direct localizing value than the spasticity of the muscles, but they are complained of while the latter must be detected by the examiner.

Pleurisy, hemoptysis and scanty sputum are commonly present in early or fairly early tuberculous lesions. If the sputum contains bacilli, the diagnosis is made; but it is sometimes present in small amounts in early lesions without bacilli being found in it after most careful search.

Hemoptysis may be met in influenza, and post-influenzal infection, bronchiectasis, lung abscess, lung syphilis and malignancies; but the history will usually suggest whether or not these other conditions are present. If symptoms of both Groups 1 and 2 are present with an hemoptysis of one-half to one dram of bright blood, it points most strongly to tuberculosis as the causative factor, and at least calls for a longer observation and a carefully directed plan of living.

Pleurisy, except it accompany influenza, pneumonia, or an injury to the chest, is nearly always due to tuberculous infection.

SUMMARY

With the understanding that there is only one etiologic factor responsible for the symptoms of early clinical tuberculosis, viz., the allergic reaction; and with the further knowledge that this causes the symptoms in one of three ways, through toxins, reflexly, or locally at the point of the inflammation, we are now able to see the combined value of symptoms of at least two or of all three groups in fixing the diagnosis of a given pulmonary infection.

Since the allergic reaction is also responsible for the evidence found on physical examination and that revealed by the x-ray, it may be seen that the reaction which causes few symptoms is also likely to cause few signs which are demonstrable on physical and x-ray examination. It is in such cases that we need help from all the diagnostic methods that we have at our command. This paper is not intended to belittle other methods of examination, but simply to call attention to and to emphasize the importance of a clinical history, when accurately taken and carefully analyzed.

Pottenger Sanatorium.

DISCUSSION

PHILIP H. PIERSON, M. D. (490 Post Street, San Francisco).—This paper dealing with the clinical history in the diagnosis of pulmonary tuberculosis is very timely. Today when there are so many short-cuts to diagnosis by means of laboratory aids, the careful taking of the history is often neglected. It has been my custom to ask the patient how long ago he was *perfectly well, active and strong* and chronologically put down the symptoms as they have occurred, very often over several years. One of the most important groups of allergic phenomena is the gastro-intestinal group mentioned under one and two. Often suggestive of chronic disturbance of the gall bladder, appendix, or colon, much time is lost in treating the patient for an illness which is not really responsible for his complaint. Likewise the histories of frequent colds are merely allergic reactions about a pulmonary or bronchial focus. This is particularly true in childhood. Among other helpful aids in determining their sensitiveness of tuberculosis is the intracutaneous tuberculosis test. This reaction is often more marked at one time than another. Serial roentgenograms frequently bear out this changing reaction about a pulmonary focus.

In group two, Doctor Pottenger has mentioned spasm of muscles of the shoulder girdle as a reflex manifestation of trouble in the lungs. In early tuberculosis, especially in the face of hemorrhage where a thorough examination is impossible, I am sure we can gain much from palpating the chest to determine lagging of one or the other side and this reflex spasticity of the muscles reflecting the underlying disease. To be sure it takes a good deal of experience to properly interpret this sign, but I feel that it is well worth special attention in order that we may be acquainted with it accurately when it is most needed. The old adage, treat the patient and the disease will get well, is particularly true in tuberculosis and the recognition of the many allergic phenomena, as expressed by Doctor Pottenger, will help in choosing the proper system of treatment for tuberculosis.

*

WILLIAM C. VOORSANGER, M. D. (490 Post Street, San Francisco).—The diagnosis of beginning tuberculosis depends largely upon symptoms elicited, gathered only by careful questioning of the patient. As the doctor so well states, our hope for cure lies in starting remedial measures before the tuberculous process has made too great inroads into the lungs. The specialist, too, seldom sees the beginning disease—too often, sad to relate, the patient comes to him with advanced tuberculosis which has remained undiagnosed. Careful history-taking will often elicit a slight cough of months' duration, pains in the chest, a pneumonia or influenza in previous years, a steadily growing loss of appetite, an occasional night sweat—but, most important of all, a definite statement of fatigability of which the patient himself may have been ignorant until it is called to his attention. While these symptoms do not always indicate tuberculosis, they are highly suggestive of it, and if kept in mind, will lead the physician to make a complete examination, with sputum analysis and x-ray investigation.

Without a careful history, and without properly evaluating elicited facts, the patient is often dismissed with a little advice or a cough mixture and thus permitted to lose his chance of getting well. I agree

fully with Doctor Pottenger concerning repetitions of bacillary inoculations in tuberculosis and that we only accomplish a relative immunity. Regarding the primary infection, we have learned that it does not always start in the apex as formerly believed; it starts most often infraclavicularly, and an early lesion may thus be overlooked by the ordinary physical examination.

Doctor Pottenger's grouping of symptoms is excellent; you will notice the most distressing ones are due to toxemia, which can only be combated by rest in bed. How necessary, therefore, to make an early diagnosis and get our patients at rest!

Time will not permit lengthy discussion of the statement that the allergic reaction is the main etiological factor in pulmonary tuberculosis. We are beginning to recognize this fact in other diseases, and particularly in other pulmonary conditions; perhaps it explains why we have so often failed to effect a cure in one patient while accomplishing it in another. It is certainly a true and important statement, if reactions in the human body can cause mild symptoms in one person, and severe ones in another, it surely becomes self-evident that a careful eliciting of all facts which can have a bearing upon an early diagnosis is a matter of the first importance.

❊

A. L. Bramkamp, M. D. (Banning).—For many years, in season and out of season, Doctor Pottenger has been preaching to medical men this gospel of the curability of pulmonary tuberculosis based on early diagnosis and treatment.

On the whole it may be accepted as a fact that doctors generally are now somewhat better able to recognize the clinical disease from physical signs than formerly if serious and persistent effort is made. However, in many cases, the disease will have done considerable damage in the lungs by the time physical signs are readily detectable. We need to be "tuberculosis minded," always alert to the possibility of its existence even in the apparently well or slightly indisposed.

While it is true that other diseases are accompanied by many of the symptoms of pulmonary tuberculosis of the toxemia group, if the toxemic symptoms in a particular case are accompanied also by those of the reflex and focal groups the evidence is so compelling that we should consider the case one of tuberculosis until some other fully adequate explanation is found.

Just as in years past, moderately or far-advanced cases form the great majority of patients in sanatoria. Many of these patients have had relatively early diagnosis and therefore are perhaps themselves responsible for their failure to recover. Since the change to the present hopeful attitude as to the curability of the disease, there is lessened stigma attached to those who have it. And particularly, since the patient's own efforts and coöperation are such large factors in determining the outcome, can there be any justification for failure to inform the patient early and fully as to the diagnosis.

It is well to keep in mind that pulmonary tuberculosis in children and adolescents is more common than formerly realized; that in these young people (as in some adults) physical signs of the disease may be very indefinite or altogether lacking. In these patients the clinical history may have to be relied upon almost wholly. Fortunately in these cases the x-ray often affords definitely corroborative evidence.

Doctor Pottenger's emphasis on the value of an adequate history as a factor in the early diagnosis of pulmonary tuberculosis, even before substantiating physical signs are present, is as important and as timely as ever.

THE TEACHING OF PERINEAL PROSTATECTOMY*

By Frank Hinman, M. D.
San Francisco

Discussion *by Ralph Williams, M. D., Los Angeles; R. L. Rigdon, M. D., San Francisco; Robert V. Day, M. D., Los Angeles.*

THE operation of "conservative perineal prostatectomy" holds a rather unique position in the field of surgery. It has passed through several short periods of popularity alternating with those of marked disfavor. Few surgeons today perform prostatectomy by way of the perineum and it is a matter of some curiosity to the many who do not, why this small group persists in performing perineal prostatectomy. There are two factors that contribute to the disfavor of this operation. One of these is the so-called "median perineal prostatectomy" with which it has often been confused. At the outset it must be recognized that Young's conservative perineal prostatectomy is the only safe perineal operation for removing enlargements of the prostate and when properly performed is a highly technical surgical procedure, whereas median perineal prostatectomy is a blind, unsurgical method, unworthy of comparison. The results are in no sense comparable. Another factor that has contributed largely to the disfavor of conservative perineal prostatectomy is the fact of its having been attempted in the past by men unprepared to perform it. It must be recognized that the operation can be performed successfully in one way and one way only, so far as fundamentals are concerned, and this one way was first outlined by Young. Modifications that have since appeared are of relatively minor importance. The Young method preserves the rectum and the external sphincter and the ability properly to do this is the stumbling-block of the operation.

THEORETICAL ADVANTAGES OF PERINEAL PROSTATECTOMY

The theoretical advantages of perineal prostatectomy over suprapubic prostatectomy are numerous. Regional anesthesia is much more satisfactory by way of the perineum. Complications and dangers of infection are much less, the perineum having apparently a localized immunity which the suprapubic route lacks. Furthermore, the suprapubic incision, because of the proximity and danger of injury of the peritoneum and because of the complications that arise from infections of the space of Retzius or the perivesical regions, produces marked postoperative burdens that the perineal route escapes. Keyes, recognizing this danger from infection, has advocated suprapubic prevesical section, the bladder not to be opened until after it has become adherent to the edges of the suprapubic wound so as to prevent spread of infection. But the suprapubic route rivals perineal surgery only when the open,

* Read before the Urology Section of the California Medical Association at the Fifty-Eighth Annual Session, May 6-9, 1929.

visual operation of Thompson-Walker or Hunt is performed and neither of these can be done by a two-stage method. The perineal route offers better control of hemorrhage because of its being a more open, visual operation and of the more direct access for packing when required. Dependent urinary drainage is also obtained, although Fullerton has recently advocated placing of perineal drains after suprapubic prostatectomy. Because of less shock and danger of the operation, poorer risks can be subjected to it and there is an easier convalescence. The mortality, as shown by numerous published statistics, is at least 50 per cent less than that following the suprapubic operation. The average would be about 3 per cent for perineal as compared to 6 per cent for suprapubic in the hands of those most experienced by both routes. The very practical disadvantages of the perineal method are the greater difficulty of its performance, the greater possibility of poor urinary control afterward and the danger of producing a rectal fistula. Unless these dangers of incontinence and rectal injury can be prevented, the perineal route, in view of the marked advance in the technique of suprapubic prostatectomy, should be abandoned. But it is safe to say that if all urologists were even fairly certain of not injuring the external sphincter or the rectum, all would elect the perineal route because of the above advantages.

CHOICE IN METHOD, AS INDICATED BY LITERATURE

A glance at the medical literature of recent years shows that there has been a marked diminution in the popularity of perineal prostatectomy abroad, but a very distinct growth in popularity in the United States. Judging from the titles in the *Index Medicus* alone, there were only twenty-two foreign, as compared to sixty-six American publications on perineal prostatectomy in the last twelve years; whereas, during the previous twelve years, one hundred and forty-five articles appeared by foreigners, as compared to forty-eight by men in this country. With few exceptions, the urologists in this country who prefer the perineal route are men who have been trained by Young of the first and the second generation, and this alone is a good indication of the superiority of Young's method over other perineal methods. It would seem that ability to perform perineal prostatectomy successfully is not easily obtained. Few men who elect this method have been self-taught. Most of them have first seen it done, then helped to do it, and have finally done it themselves. The success of the operation depends upon the mastery of three anatomical principles: first, exposure of the prostate; second, the complete enucleation of the hyperplasia; and, third, proper repair with hemostasis. These principles have been recently published [1] in detail with illustrations, and will be but briefly referred to here. The most difficult problem of the operation is successful perineal exposure which is solely anatomical and which requires for successful performance the recognition of two anatomical signposts: first, the central point of the perineum; second, the fascia of Denonvillier. Once expert in the proper dissection of these anatomical structures, the other steps of the operation become safe and simple.

It is a matter of some surgical interest to know whether the principles of preserving the rectum and urethral sphincter can be successfully taught, for, if not, it would seem that the operation is bound to fall into disfavor. Recent medical literature rather proves that the first generation has carried on successfully, inasmuch as a number of fairly good-sized series with remarkably low mortalities and especially good functional results have been reported by a number of Young's pupils. As a test of ability, the results of seventy operations performed by fourteen of the second generation at the City and County Hospital, while in training, are presented below, as well as the answers of this group to a questionnaire recently mailed them. Most of these men have been practicing urology for a very short period so that their opinions cannot be taken as final, inasmuch as they have hardly had time to fully test or modify them. A minority, however, have been in practice for a number of years and their opinions, therefore, should be more mature. Each one of these men has had charge of the urological service of the San Francisco City and County Hospital for at least six months after two or more years' apprenticeship as an assistant, and almost without exception the operations analyzed are the first ones of this type ever performed by him. In addition, it must be recognized that no more severe test of surgery than this could be asked in that these cases are without exception free clinic type, which are notably poorer risks than private patients, and which have had the ordinary ward service without any special assistance in the way of care, and in that each man has been more or less individually responsible for preparation, operation and postoperative care. The results are not published out of any great satisfaction in them because, as a matter of fact, they are not good results; but the results are published in order to emphasize the difficulties of learning how properly to perform prostatectomy. In order to check the situation the suprapubic operations performed by the same group have been studied. Should similarly poor results persist into private practice with any or all of these men they will no doubt abandon perineal prostatectomy and undertake suprapubic prostatectomy. They may later return to the perineal route because of greater discouragements suprapubically, as this has already happened with one or two of them. No prostatectomist can expect to cure completely every patient who comes to him for operation. There has been, however, a marked difference in the relative degree of success of these different men, some being remarkably skillful, having no rectal fistulae and no incontinence, while others

[1] Hinman, Frank: Perineal Prostatectomy, Contribution to the section on Clinical Surgery. Surgery, Gynecology and Obstetrics, pp. 668-681, November, 1929.

have had a rather high mortality with one or more of these accidents. The series of each individual, however, is altogether too small to draw any comparative conclusions.

Results of seventy consecutive cases of perineal prostatectomy performed by men in training.

Probably no more rigid test of an operation could be asked than a series of first cases performed without supervision by fourteen different surgeons in training. Seventy consecutive patients have been thus operated upon:

	Cases
Three operated one patient each	3
One operated three patients	3
Two operated four patients each	8
Four operated five patients each	20
One operated seven patients	7
One operated eight patients	8
One operated ten patients	10
One operated eleven patients	11
Fourteen surgeons	70

Particularly severe is such a test when it is known that these seventy were clinic patients, the majority of whom were old and enfeebled individuals without financial or physical reserve and often enough broken in spirit. And, furthermore, the results must take into consideration the fact that the preoperative preparation with retention catheter, etc., the operation itself and the postoperative dressings and treatments were largely the sum total of each surgeon's individual efforts inasmuch as he received indifferent intern, nursing and orderly service, which at best was always untrained. The results in this series of the first few operations of fourteen different men, in that they are performed on county ward patients and have been operated in a general hospital on each man's sole responsibility with the assistance of an indifferent service unaccustomed to such cases, are a good test of the difficulties and dangers of perineal prostatectomy.

There were eight deaths in the hospital, a surgical mortality of 11 per cent; four within forty-eight hours of myocarditis or hemorrhage; one each on the fourth, ninth and thirtieth day, of pneumonia and renal insufficiency (a low phthalein before operation in one); and one, who had a rectal fistula in the seventh month after prostatectomy, following operation for repair of the fistula. One patient was operated on for an acute gall bladder thirty-one days after prostatectomy and died three days later.

There were six recto-urethral fistulae, one in a patient who died on the twenty-sixth day of pneumonia, and another in the patient mentioned above who died after a repair operation seven months after prostatectomy, one which was closed immediately and a suprapubic prostatectomy done later. One closed spontaneously within two months, after suprapubic drainage was established by cystotomy; and two were operated on for closure (Young-Stone method) two and one-half and six months later. The last patient still had slight perineal drainage on discharge two months later. All fistulae were closed on discharge.

The appended tables tell briefly the results following operation.

TABLE 1.—*Tabulation of Results*

At Time of Discharge from Hospital from Date of Operation

Control of Urination	Less than weeks						Less than months						Total
	1	2	3	4	6	8	3	4	5	6	7	8	
1. Good	...	...	2	15	6	5	2	...	...	...	...	...	30
2. Fair	...	...	1	2	2	2	...	...	...	...	...	...	7
3. Poor	...	...	...	...	3	1	1	...	...	...	...	...	5
Not stated	...	...	2	4	6	6	...	...	...	1	...	1	20

DURATION FROM DATE OF OPERATION

Died in Hospital	1 2 3 4 5	6 7	⑥	8							⑨		8
Perineum dry and permanently closed	10	23	12	3	3	...	...	...	...	...	1 1	(by cystotomy) (slight leakage after recto-urethral fistula was closed.)	
Not stated	...	...	...	1	4	3	1	...	...	...	...		

1, 2, 3 and 4, hemorrhage and myocarditis.
5, 6 and 8, convulsions and pneumonia.
⑥following repair of recto-urethral fistula in 7th month.
⑨following operation for acute gall-bladder.

Recto-urethral Fistula. All closed.	1. Closed at once, suprapubic operation later. 2 and 3. Closed at 4th and 8th month by Young-Stone method. 4. Healed spontaneously with retention catheter. 5. Died on 26th day (No. 8 above). 6. In 7th month following repair.	6

TABLE 2.—*Results in twenty-five consecutive suprapubic cases performed by same group of men whose perineal results are analyzed above.*

	Cases
Two operated one patient each	2
Two operated two patients each	4
Two operated three patients each	6
One operated four patients	4
One operated nine patients	9
Nine surgeons	25

It is rather disconcerting to find that in this small series there is an operative mortality of 29 per cent.

One patient died in twelve hours.
One patient died in twenty-four hours.
One patient died in two days.
Two patients died in five days.
One patient died in eleven days.
One patient died in thirty-five days of bronchopneumonia.
One patient died in four months, two days after partial cystectomy for tumor of the bladder.

Eight

QUESTIONNAIRE AND REPLIES

The questionnaire mailed the above fourteen men is as follows:

"Have you any preference as between the perineal and suprapubic route for prostatectomy?
State briefly your reasons.
Have you had rectal fistulae? Explain.
Have you had incontinence? Explain.
Will you briefly state in general your experience with prostatectomy?"

Replies have been received from only twelve of the fourteen and all but one have stated a distinct preference for the perineal route. Two of those who have been in practice for several years became discouraged with their results perineally and started to perform prostatectomy through the bladder, but after thirty or forty such operations, decided that their results by way of the perineum were better than suprapubically and returned to the perineal route. Unfortunately the questionnaire is so worded that one cannot tell whether the fistulae and incontinence asked about occurred in private practice or whether cases operated at the City and County Hospital are included.

Rectal Fistula.—Three men state they have each had rectal fistula once, the explanations being as follows: (1) "Three days after perineal prostatectomy a large milk and molasses enema was given by inexperienced nurse; fistula persisted until patient's death six months later from carcinoma of the stomach." (2) "I have had one rectal fistula, due to faulty preoperative preparation of the patient whereby the patient was put on the table soon after two enemas had been given without any return. The fully distended rectum was perforated by the index finger during the preliminary blunt dissection of the lateral fossae. The prostate was removed later by the suprapubic route." (3) "I have had one case of rectal fistula in a case of carcinoma."

Incontinence.—None of these twelve men has ever had a case of incontinence, although most of them speak of a temporary dribble for the first one or two months postoperatively, after which there was perfect control.

General Personal Experience.—As to answers to the general personal experiences, *one writes*: "I have had between twenty and twenty-five cases. The results have been best where the staff is trained and equipped for perineal work. They are possibly harder to do and care for than suprapubic cases in some hospitals and require a little more personal attention for forty-eight hours, after which they require less expert care than the suprapubic cases. The greatest danger is from hemorrhage and its sequelae (infection). I feel that hemorrhage is often not dealt with radically enough or soon enough. The mortality may probably equal or exceed suprapubic because poorer risks are accepted for perineal operation due to its lack of severe shock and use of local anesthesia." And *another writes*: "Twelve suprapubic prostatectomies with one death. Forty-four perineal prostatectomies with no deaths. These are all private cases and, while the series is small, with one exception, the results have been very satisfactory. The one exception—the median lobe was not removed in the perineal operation." A *third says*: "One's general impression of prostatectomy is that the perineal route is the more surgical procedure of the two as regards the operative field. The suprapubic method savors strongly of crudeness—I refer particularly to the actual method of enucleation." A *fourth replies*: "My short series of cases, all at the San Francisco Hospital, have led me to believe that the perineal route, once mastered, gives the best structural results. I have had six cases. One death two weeks postoperatively from pneumonia. This patient was a bad risk. Had a large diverticulum. The gland was carcinomatous and very markedly adherent to the rectum. Done under spinal and gas-oxygen anesthesia. All other cases gave satisfactory results." A *fifth*: "My own experience with prostatectomy has thus far been limited to about twelve cases. From this meager experience and what I have gathered from the literature, it appears to me that future developments in prostatic surgery will be consummated with the primary control of hemorrhage by suture and attempts to get primary wound healing." A *sixth writes* at length: "My limited experience leads me to believe that the advantages of perineal over suprapubic prostatectomy are more theoretical than practical, when we consider the technique of the perineal method in the past. Both methods probably have certain advantages, one over the other, but the comparative ease with which the suprapubic operation can be done favors its more general use. Consequently, I think the perineal operation ought to be abandoned unless evidence can be adduced to show that its results are so vastly superior to the suprapubic as to more than offset the technical difficulties of the perineal. I do not think that statistics show any vast superiority in the results of perineal prostatectomy. In my opinion the future progress of prostatectomy lies in an improvement in our present methods of controlling bleeding at the time of operation. I think that packing of the prostatic cavity, the use of rubber bags, etc., can and should be abandoned. Without their use it is possible to obtain primary closure and healing of wounds without urinary drainage and thereby greatly shorten convalescence and add to the patient's comfort. My experience in some twenty consecutive cases has shown that satisfactory control of bleeding can be obtained in every case without resorting to packs, etc., and in 90 per cent of them primary healing will occur without the wound breaking down and draining. When it does drain it is usually very transient. In this way it is possible to discharge many patients from the hospital in twelve to fourteen days unless some complication such as epididymitis occurs. This is the most common complication of any type of prostatectomy and probably tying off the vasa should be routine. The perineal operation lends itself much more readily to hemorrhage control and to primary closure and healing than does the suprapubic for obvious reasons. Certainly if results such as these can be obtained with the perineal, then the suprapubic operation ought to be abandoned unless it can come up to the same standard." A *seventh*

reply, brief and to the point, is in full as follows: Have you any preference between the perineal and suprapubic route? "I prefer the perineal." State briefly your reasons: "(*a*) Easier approach. (*b*) Prostate more accessible through perineum for clean enucleation; ligation of bleeders; removal of tags, etc. (*c*) Smoother postoperative convalescence. My suprapubic patients are more apt to be disturbed by abdominal distention and are generally sicker than those operated upon perineally. (*d*) Lower mortality rate. (*e*) In my hands quicker closure of perineal fistula than of suprapubic. I find that both methods give about the same functional results, so that because of the advantages in my experience noted above, I use the perineal method, unless other factors enter to modify the choice."

Have you had rectal fistulae? "There have been no rectal injuries or fistulae." Have you had incontinence? "There have been no cases of true incontinence. In several there has been a slight terminal dribbling, which in no instance has persisted longer than six months."

Will you briefly state in general your experience with prostatectomy? "A total of fifty-six perineals with two deaths and twenty suprapubics with two deaths. Until recently have used caudal anesthesia for the perineal and combined caudal and abdominal infiltration for the suprapubic. Have been converted to spinal for all prostatectomies, unless there are definite contraindications."

CONCLUSION

The above brief outline of the experience and opinions of a few of the second generation would indicate that most of them are perineal enthusiasts in spite of early discouragement. The conclusion to be drawn, therefore, is that perineal prostatectomy can be taught. But the 29 per cent suprapubic and 11 per cent perineal mortalities point clearly to the need of supervision and improvement of the city and county urological service in providing the final stage of this instruction.

384 Post Street.

DISCUSSION

RALPH WILLIAMS, M. D. (650 South Grand Avenue, Los Angeles).—It seems to me that we have gotten away from the subject. There are some surgeons who have changed from the suprapubic to the perineal prostatectomy. A good many of them have had a certain amount of training in the perineal operation. They took up the suprapubic operation because they thought it was easier; but when they tried the perineal operation they found they had to train themselves in the technique. Now, that is the whole problem in perineal prostatectomy; when it is performed by a surgeon who has learned the technique it is technically worth witnessing, but no one, even those who can do it all right, can teach another. Each man has to learn it himself. Being more or less of the old school, I do the suprapubic operation mostly. Operators of equal skill have practically the same results in either operation. Fistulas are not so likely in the suprapubic operation. A mortality of 10 or 15 per cent follows either operation when done by the general surgeon, but a much lower per cent of mortality follows work by the trained urologist.

*

R. L. RIGDON, M. D. (909 Hyde Street, San Francisco).—The paper by Doctor Hinman on "The Teaching of Perineal Prostatectomy," includes an argument for the superiority of the perineal route. So far as the matter of choice of route is concerned, the advocates of each method seem to be thoroughly convinced that the one or the other is unquestionably superior and arguments pro or con are scarcely worth while; when a man's mind is definitely made up there is little to be gained in trying to change it. The oncoming medical student must of necessity accept, for the most part, the opinion of his teacher. This is well, for each operation has its place and each should be kept.

The teaching of either suprapubic or perineal prostatectomy is not easy. After a surgeon has thoroughly mastered the technique, it then seems to him so simple that he has difficulty in realizing the perplexities of the student. I am convinced, too, that a student by study and observation may master the various steps in the operation and be able to discuss and answer questions intelligently and still be very far from really knowing the operation. It is only by doing the operation repeatedly that he acquires skill. It is also certain, under our present methods of teaching, no recent graduate can be a finished operator; his real skill will come after he has gone into practice for himself and has assumed full responsibility, both as to manual manipulation and judgment.

I do not believe a true test of teaching ability is afforded by the number of students who continue in the method they have been taught. What should happen, and actually does, is that wider reading, more extended observation and a growing experience enables the surgeon to choose the method that gives best results in his hands. When he has made this independent choice he is for the first time fully taught. It is manifest a professor cannot supply all this instruction.

*

ROBERT V. DAY, M. D. (1930 Wilshire Boulevard, Los Angeles).—It seems to me that we should get back to what Doctor Young has always said, namely, that each should do the type of prostatectomy he personally can do best; in other words, the type of operation for which he has been trained and with which he has had the most experience. This is a bit off of the announced subject, but Doctor Hinman has himself brought up this phase of the matter. Doctor Hinman has just stated, and seemingly most perineal prostatectomists believe that only the perineal method is highly technical. As to the manner of approach, this is true, but as regards all other steps in the suprapubic operation I am sure that such is not the case and no doubt this accounts for the high mortality and poor results when perineal prostatectomists and others without a background of experience and training in suprapubic prostatectomies attempt the suprapubic operation. Indeed every other factor except the approach is highly technical and requires great judgment if the suprapubic operation is chosen.

As regards early healing, I personally dislike to have the bladder wound heal under two weeks' time. There are a pair of kidneys above that have already been damaged during the years of developing prostatism, or at least there is potential damage. Therefore, too early closure of the bladder and consequently the danger of increased intravesical tension and tears of the healing bladder neck and prostatic bed during the urinary act are factors to be considered.

If a patient is considered a good risk from the standpoint of prostatectomy the mortality will be about equal, no matter which type of operation is done. On the other hand, among the poor risks comprising 20 to 30 per cent of cases coming to operation are bad risks, and in this type of case there is no question but that the perineal operation is safer from the standpoint of immediate mortality. Randall used to say that an hypertrophied prostate which was largely intra-urethral should be removed perineally, and a prostate pushing into the bladder should be removed suprapubically. As a matter of fact any prostate may very well be removed perineally by a perineal prostatectomist and, on the other hand, any prostate may satisfactorily be dealt with suprapubically by a finished suprapubic prostatectomist.

Finally, after a practitioner has received the training Doctor Hinman speaks of under the supervision of a master of this operation, he has only just begun; it takes one hundred or more perineal operations before he adequately masters the technique.

THE CHILD WHO WILL NOT EAT*

By HENRY E. STAFFORD, M. D.
Oakland

DISCUSSION *by C. F. Gelston, M.D., San Francisco; William W. Belford, M.D., San Diego.*

RECENT work on the caloric value of foods, vitamin needs and standards of weights and heights, etc., has given us valuable information in feeding children, yet the complaint "My child won't eat" is as common or more common than ever. In a recent survey it was found that only 10 per cent of children in well-to-do families were eating properly.

CAUSES OF ANOREXIA IN CHILDREN

Causes of failure in applying our knowledge of feeding children may be roughly grouped under three general headings: infection, allergic sensitization, and psychological maladjustment. Chronic foci of infection (antrums, tonsils, teeth, urinary tract) we are usually able to locate and eliminate. Acute infections are soon over and, while often the beginning of long standing feeding problems, do not otherwise concern us here. The allergist is often able to rule out sensitization antigens. Too frequently, however, improper habits of training, faulty daily routine and unsatisfactory surroundings at mealtime, keep the child from receiving proper nourishment. We fail to realize that the food needs of individuals are variable; that there are wide differences in food intake each day in a given individual and consequently that we are unable to prescribe food in even approximately exact amounts. This latter I will discuss.

In so far as I know, there is no new "open sesame" to our problem. Its solution lies in the education and reëducation of parents and nurses, but before this can be accomplished we must have a clear conception of the factors underlying anorexia. Why do so many children never eat well and other healthy small folk suddenly rebel against food?

SPECIAL FACTORS

Food Preparation.—Several of the primary causes involve little scientific knowledge but have only to do with the routine minutiae of our small patients' daily existence. Let us first consider the preparation of food. Any foodstuff may be rendered distasteful by improper cooking and serving, for example, vegetables cooked in a large quantity of water with all natural flavor and oils removed, later puréed into an unrecognizable mass and served with an over helping of watery mashed potatoes and, let us say, a soft-boiled egg stirred in, cannot invite the average child of even five or six. Yet how often do we find conscientious nurses and mothers cajoling, urging, bribing this type of food into intelligent children.

Meals with Family.—Equally common is the mistake of allowing children under six years to eat with their parents. The interesting conversation of adults diverts the child from the objective of mealtime. But worse, days come when Johnny or Betty, because of an intercurrent infection, or overfatiguing play, is less interested in food than usual. This is promptly noticed by the parents close at hand. Distasteful food is made more so by suggesting that it be eaten. When this has been repeated several times the child finds himself the center of attraction at mealtime, knowing the dinner conversation will promptly turn to him when a portion of food is left. Was there ever a child who would not sacrifice a portion of spinach to be noticed? Or perhaps father has never been trained to eat artichokes. The fact that it is left on his plate is noticed and as promptly copied with the result that a valuable foodstuff is eliminated from his son's or daughter's diet.

Time Irregularity.—Food between meals is not uncommonly an early factor in preventing proper eating at mealtime. The bottle is reheated several times, so that the last ounce of the prescribed formula may be given, often reducing the feeding interval by a full hour. At a little later age zwieback, and graham crackers are offered between feedings so that an opening wedge is formed for the sandwich and the glass of milk in the middle of the afternoon. The vicious cycle is thus easily formed—food between meals, less food at mealtime.

When new tastes or coarser foods are added to the growing child's diet, another problem confronts us. If at first small amounts of foreign articles of food are offered and the amounts gradually increased or food with heavy cellular fibers is finely divided in the beginning—education to novel food elements is smoothly and easily accomplished. But on the other hand, if either is forced when first given, it may be years or even a lifetime before such articles cease to be distasteful to the individual so treated.

Spoon Feeding.—It is the exception to see a child eat well who has been spoon fed by nurse or mother after the second year. The average child makes evident its desire to handle the spoon itself before this time. Because coördination is at first faulty, less than the average amount of food is taken—whereupon the attendant with visions of her charge wasting away amid plenty, again takes things into her own hands. The child rebels—picture books or a favorite toy are called into service and large portions of food are poked down to the rhythm of turning leaves or the squeaks of a teddy bear. The result is obvious. The child is fed because he does not eat well by himself; he does not feed himself because he is spoon fed. How unlike the results of Doctor Davis' experiments where ten-month-old infants were allowed to choose their own food each day from a large variety, and when the intake was averaged it was found to form a balanced diet

* Read before the Pediatrics Section of the California Medical Association at the Fifty-Eighth Annual Session, May 6-9, 1929.

and the progress of the child was within average limits.

Mental and Physical Fatigue.—Lastly the tired child is never hungry. This is probably due to the interference by fatigue of gastric peristalsis, which in turn is normally responsible for the sensation of hunger. Without hunger there is no desire for food—or appetite. Consequently the child who rushes to the dinner table tired from play, rarely eats well. Ten or fifteen minutes' relaxation between daily activities and mealtime often makes the difference between a poorly or well-eaten meal. Unfortunately a child is more commonly nagged into eating small portions of food which are little wanted than to be called a few minutes before dinner so that a desire for food may be developed. Needless to say, fatigue from chronic infections and insufficient rest period during either day or night produce the same result.

The above mistakes are common. One or more are present at some time in almost every household. I think the reason lies in the fact that we are educating our parents and nurses to aspire to high ideals for children without showing them there is a limit to their endeavors. We are giving them facts without balanced clinical judgment.

GROWTH NOT CONSTANT

All children pass through physiological resting periods in growth. In this discussion the time between the tenth and fourteenth month is by far the most important. When a child begins to change from his baby type of stored-up fat to early childhood, muscle caloric needs are decreased. Failure to realize this causes much forced feedings. Given a previously healthy child free from infection who fails to gain and at the same time refuses 10 to 40 per cent of its food, the natural impulse is to first cajole, then urge and then force. Each phase of such management is met by an increasing resistance on the part of the child.

INDIVIDUAL CALORIC NEEDS

We so often fail to consider children as individuals. Standards of heights and weights have been of real service in calling attention to the fact that our small friend just "can't grow." Popular books on caloric and vitamin needs have aided in giving us balanced diets. But to apply average developmental standards or average caloric needs to the individual child is sheer folly. Few attempt it. However, the idea has become firmly fixed in the minds of many parents and nurses that there is a *normal* weight and height, and *normal* food requirement for every child of a given age. How idealistic to raise a race of super-children conforming to high standards! Every parent aspires to such an ideal standard for his son or daughter. Little Johnny is found to be four pounds "substandard." Translated into his parents' minds, this means nothing less than four pounds under weight. Johnny is sub-normal. He must be fed up. Increased calories must bring him up to the ideal. Parents, attendants, and at times his physician, are arrayed against him to bring Johnny up to standard—please, let us not say normal. The boy, firm and in perfect health, but perhaps somewhat small, rebels. The more food that is forced, the less he eats, and he finally becomes whiny, irritable and begins to lose weight, all because we have attempted to force him to conform to an empirical ideal—because we have failed to consider heredity and environment in forming our judgment of his general physical condition.

PREVENTION OF MISTAKES IN FEEDING

Preventing the above mistakes in daily routine and child training with the underlying faulty viewpoints which prompt them, offers the key to the solution of our problem. When we are fortunate enough systematically to follow children through the first three years, we are usually able to keep them from being forced or urged to eat. By explaining that different children vary in their caloric needs; that food requirements vary at different times; that health is not synonymous with average weight and height and that growth progresses in uneven cycles and not in a steady uninterrupted increase—parents and nurses may be prevented from falling into the pitfalls of mismanagement based on an overzealous attitude. In my judgment there is never a time when a child should be forced to eat. Dr. Franz Hamburger, in a recent article, states it is folly to praise or urge a child to do that which he naturally wants to do. Hunger and appetite are both natural impulses. Is it not more logical to use them as allies in training children to eat than to stifle both by mismanagement? It is far easier to train a mother to this attitude and so we feel prevent anorexia, than to later attempt to solve a feeding problem of five or six years' standing. To convince a parent that a child will not starve if let alone or that a decrease in weight will only be temporary is often a difficult task. When a mother can be persuaded to follow instructions for a stated time, our point is usually gained. It is rarely accomplished with a single conference and often is impossible unless the child be seen at frequent stated intervals over a period of weeks. The "art of the practice of medicine" required to convince parents that operative procedures are necessary is little compared with that needed in gaining their confidence sufficiently to permit their children to go without food for a few days. We have all seen many small folk refuse food for three or four days, then ask for meals and begin to eat well again when they have always been classed as poor eaters. Others will leave one article of food, e. g. milk, for weeks, and then return to it willingly if not urged.

SUMMARY

To summarize our attitude toward the child who will not eat, I should like to state the suggestions which we give to parents in feeding children.

1. That a well-prepared meal be offered at regular times.
2. That it be served in an appetizing manner.

3. That the child shall come to the table in a proper mental attitude, e. g., free from fatigue.

4. That the child shall remain at the table uninterrupted for thirty minutes.

5. That no mention of food be made during or between meals.

242 Moss Avenue.

DISCUSSION

C. F. GELSTON, M. D. (384 Post Street, San Francisco).—To say that 90 per cent of children beyond the first year have faulty eating habits sounds exaggerated, but is unquestionably only too true. Certainly, it would seem that as physicians we should seriously take cognizance of this problem and use our influence with parents, teachers, nurses, all those coming in contact with the child, to prevent, by education, such an appalling situation. It would actually appear that there is more unhappiness, more disruption of family placidity and routine by this bad habit than by any one other complaint.

As is pointed out, training must be begun early, at the first sign of this nervous anorexia. As a rule this becomes noticeable in the second year, although frequently enough at the end of the first. Much can be gained if we are only able to impress upon the parents the importance of winning these first "battles of wills." The saving in peace of mind later is incalculable. Without realization, one so easily slips into the habit of diverting the child's attention while, as Doctor Stafford literally expresses it, food is "poked" down the youngster's throat. From this point is a short step to a "vaudeville show" at every meal with a steadily increasing irritability, nervousness and unhappiness of the mother, all of which the child thoroughly enjoys. And to have this repeated three times a day is bliss itself.

We have a practical application of discipline, as practiced by many mothers of several children. Such a mother is not infrequently constantly busy from morning till night. She simply has not the time or nervous energy to spend in pampering the whims of her offspring. Food is prepared for all of them, they are seated at table, and they eat or do not eat as they see fit. The first-born may attempt for a long time to receive special attention but, sooner or later, his overworked mother gives him the needed discipline, and the child, once convinced that the game is lost for him, "falls to." If only mothers of but one child would be as sensible.

✲

WILLIAM W. BELFORD, M. D. (611 Medico-Dental Building, San Diego).—Doctor Stafford deserves our thanks for this timely paper, for the child that does not eat is fast becoming one of our major problems. By far the larger group of these children fall into the third class Doctor Stafford describes as psychological maladjustment. My remarks are directed toward the prevention of this problem.

There are many ways of approaching the problems these children and their parents present. The prevention is relatively easy if we but remember to educate and direct the parents as to what is to be expected in regard to food habits and growth. In the first six months we have learned that many artificially fed children can grow and develop satisfactorily with three feedings in the twenty-four hours. Some children begin as early as ten or eleven weeks of age to take eight ounces of a moderately concentrated feeding three times a day. This satisfies their hunger and allows a generous interval between for digestion. In other words they eat when hungry. When additional foods are added at six, seven and eight months it is seldom necessary to return to four feedings a day for by proper adjustment plenty may be given with each meal. No between-meal feedings are needed or allowed. At varying intervals more foods are added, but at no time is the parent or nurse allowed to force or override the child's dislike. The child eats because he is hungry and never to please the adult. The young mother who starts out on the line of no forcing, has a child who eats because he satisfies his appetite and hunger and never to please the adult feeding him or preparing his food. This mother seldom turns up with the child who will not eat.

In the first twelve months the baby gains fast, some ten to eighteen pounds. After fourteen months, though, this gain stops and for the next four or five years the gain will average about four pounds a year. Some in the second ten or twelve months may gain only a pound or two and be quite happy and contented and growing steadily and satisfactorily. The parents are told of this, reassured, told again and again and before the period of stationary weight or slow gain comes on. Few are worried when they understand something of the phenomenon called growth.

I wish it had been possible for Doctor Stafford to go into more detail about the methods he uses. So many of these children, and their parents, with bad food habits have to be cajoled and warped into new ways and thoughts by all sorts of reasoning. I disagree with Doctor Stafford that children under six years should not be permitted to eat with their parents. The child over two years who eats because he has an appetite and hunger for food is not often upset in satisfying his needs by the ordinary family conversation. Children get tired being constantly with the nurse or their mother at mealtimes, and graduation to the adult table is often all that is needed to correct considerable unhappiness.

✲

DOCTOR STAFFORD (Closing).—It is good to know Doctor Gelston and Doctor Belford feel so keenly about "the child who will not eat."

All scientific progress calls forth new problems. Our advancing knowledge of nutrition is no exception for anorexia in children is certainly an outgrowth of our increased understanding of food. Pediatricians will, of course, vary in their methods of dealing with children who refuse to eat properly, but only when parents and nurses recognize a happy balance between proper food and the child's psychological attitude toward mealtime will the full benefits of our increased knowledge be manifest.

BLOOD SEDIMENTATION TEST*

ITS SIGNIFICANCE IN GYNECOLOGY

REPORT OF CASES

By DONALD G. TOLLEFSON, M. D.
Los Angeles

DISCUSSION *by Donovan Johnson, M. D., Los Angeles; Alice F. Maxwell, M. D., San Francisco.*

ACCORDING to Baer and Reis the phenomenon of the sedimentation test dates back to the *Crusta Phlogista* of the ancients, which was first described by Galen. It was noted that blood from patients suffering from inflammatory disease, when allowed to stand, would separate out into two portions—one serum, and one erythrocytes. The various theories have been so completely discussed in the literature that they are purposely omitted here. Probably the first individual to use this procedure in gynecologic diagnosis was Lizenmeier, and his technique, as modified by Friedlaender, is the one herein described.

The material for this analysis is based on some two thousand readings on eight hundred and fifty patients admitted to the obstetric and gyneco-

* Read before the Los Angeles County Medical Association, February 7, 1929.

logic service of the Long Island College Hospital in Brooklyn, New York. Part of the material here considered has previously been reported in a paper presented at the 1927 session of the American Medical Association by Polak and Tollefson.

When correlated with physical findings and other laboratory data the sedimentation test is of definite value in diagnosis. A rapid rate means infection, and a slow rate excludes this possibility.

Technic.—Draw 0.2 of a cubic centimeter of 5 per cent sodium citrate into a 1 cubic centimeter graduated tuberculin syringe. With a small hypodermic needle attached, draw 0.8 of a cubic centimeter of blood from one of the small veins in the arm, thus making 1 cubic centimeter of a solution of citrated blood, which is placed in a standard calibrated tube. Shake thoroughly by inverting the tube and take the time. When the erythrocytes have settled to the 18 millimeter mark, leaving the clear serum above, take the time again. The difference in minutes is the sedimentation time. The best period in which to perform the test is about three hours after the last meal.

INTERPRETATION OF THE TEST

We have taken 120 minutes as the sedimentation rate for the normal individual. Whenever a rapid sedimentation time is noted the reading is taken to indicate an infection.

Pregnancy.—However, Fahreus in 1917 called attention to the variation in the sedimentation time of patients who were pregnant. Like his results, our series show that, after the third or fourth month, the rate becomes lower than normal. Table 1 illustrates the reading in the pregnancy group. In postpartum cases it is of some value. Whenever the sedimentation rate continued to decrease or remain below ten minutes the chances for recovery from postpartum infection were extremely small.

Carcinoma.—Carcinoma patients give a rapid sedimentation time whenever infection is present. Frommelt and Motiloff [5] believe that an increased rate might be used as a means of determining a recurrence of the malignant growth. We believe that the rapid rate is due to infection occurring in the tumor tissue. Table 2 illustrates the readings in the more common locations of malignancy. The rapid rate in papillary cyst is probably due to the low-grade peritonitis excited by rupture of the malignant process.

After Operation.—There is a definite increase in the rate of settling, following operation, as is shown by fifty cases, where the test was repeated at frequent intervals in order to obtain an estimate of its value. We note that following operations there is a rapid drop with the first three or four days. If the convalescence is proceeding normally the rate gradually ascends; if infection is present, the rapid rate continues until this is eliminated. The postoperative drop in the rate of settling is probably due to absorption and the changes incident to anesthesia and tissue destruction.

Anemia. — Secondary anemia, according to Cherry,[6] causes a slower sedimentation time, while in our experience, where no infection is present, there is no change.

Average Readings.—Having allowed for certain conditions which cause an error in appreciating the significance of the test, we find that in typical pathologic conditions certain average readings, which, when compared with other observers, agree almost identically. In Table 3 a few of the more common rates are charted. Whenever the sedimentation time is below thirty minutes, accumulation of purulent material, either as a circumscribed abscess, or multiple minute foci, will be a constant finding. In active tubal infections with leukocytosis and elevation of temperature, the rate of sedimentation averages thirty-eight minutes. Where this type of infection has been present but not active, the readings vary between ninety and two hundred minutes. Parametritis averages thirty-six minutes, while the long-standing process, which is clinically inactive, averages one hundred and thirty-six minutes.

As an aid in diagnosis two cases will show its value.

REPORT OF CASES

Case 1.—Patient 2472, admitted to the hospital with a diagnosis of infected ovarian cyst, showed a sedimentation time of nineteen minutes. At operation, in addition to adenoma-carcinoma of the uterus with metastasis, a subsiding acute appendix was also discovered.

* * *

Case 2.—Patient 3462, with a sedimentation time of twenty-seven minutes and a normal blood count, was admitted for postoperative hernia and a tumor mass in the right lower quadrant. On exploration of the abdomen a parametrial abscess was discovered. In another case the admission diagnosis was fibroid with degeneration. The patient had a normal blood count, but a sedimentation time of fifteen minutes. The operation was postponed. Patient developed a temperature and ten days later a pelvic abscess was drained per vagina. Rapid sedimentation spells infection. If not in pelvis, other parts of the body may harbor the focus.

VALUE OF TEST IN ECTOPIC PREGNANCY AND SALPINGITIS

If sedimentation is an index of the presence of infection its use might be indicated in the differential diagnosis of ectopic pregnancy. It is a well-known fact that the leukocyte count varies markedly, even when taken at frequent intervals. Following intraperitoneal hemorrhages, there is a marked leukocytosis; but if the bleeding stops the count will approach normal within a few hours. The temperature is also of no value in diagnosing ectopic pregnancies. Comparative readings show that the rate in extra-uterine pregnancy is slow, while that of salpingitis is rapid (Table 4).

In ten ectopic pregnancies reported by Polak and Mazzola [7] the average sedimentation rate was 105 minutes, while in fifteen of this series the average reading was 115 minutes. The more ad-

vanced the pregnancy the more rapid the rate, as Table 5 indicates. The intact ectopic pregnancies or those with a slight rupture, if seen early, will show a reading of around 100 minutes, while the old cases, where the symptoms have been of two weeks' or more duration, give the rapid readings of an infection. Apparently old hematomas excite a low-grade peritonitis. Here the test is of little significance, but when the typical symptoms of either condition are present and the onset is of recent date a slow rate is indicative of an ectopic pregnancy, while a rapid rate suggests tubal infection.

Two cases will illustrate this point.

Case 3.—Patient 2724, with a typical history of a postponed menstrual period and physical findings suggestive of ectopic pregnancy, had a leukocyte count of 33,400, but the sedimentation time was only seventy-two minutes. The following day it had dropped to forty-five minutes, but the findings were so typical that laparotomy was done and an acute salpingitis was discovered.

* * *

Case 4.—Patient 6336. The history and pelvic findings were again typical of an extra-uterine pregnancy, but the sedimentation time was thirty-five minutes. At operation an acute salpingitis was found. Therefore, by exclusion of infection, the sedimentation test may add confirmatory evidence in the diagnosis of early ectopic pregnancy.

A SAFEGUARD IN ELECTIVE PROCEDURES

In gynecology at least 90 per cent of the operations are elective, and when one considers the danger of an ordinary laparotomy in the hands of the most careful operator he is at once impressed with the danger, when seemingly simple fibroid tumors are complicated by clinically inactive but quiescent infection. When leukocytosis and elevation of temperature are present we know that infection exists; but in those cases where the blood count and the physical findings suggest no complication the sedimentation time is an index of the presence and severity of the infection.

Following our previous report, we formulated the rule that patients should not be subjected to laparotomy if the sedimentation time was under ninety minutes. We believed that when operation was performed on such patients the convalescence would be prolonged, troublesome complication might arise and the end-result would be unsatisfactory. We have performed operations in these cases, and they have been of value in proving our conclusion in this work.

In benign tumors the readings are normal (see Table 6), but coexisting infection increases the speed of sedimentation. The judgment of when to operate is probably more important than how to perform the procedure.

Case 5.—Patient, Mrs. N., was admitted to hospital with a diagnosis of tubo-ovarian disease, with a normal blood count and normal temperature, but a sedimentation time of thirty-two minutes. A hysterectomy was performed, and a stormy convalescence followed. She was discharged on the twenty-second postoperative day against advice, with a sedimentation time of twenty-eight minutes and a marked pelvic exudate. She was seen in the clinic two months later and her general condition was extremely poor.

Case 6.—Patient, Mrs. S., with a sedimentation time of forty-five minutes, normal blood count and normal temperature, had a hysterectomy for fibroids. Her postoperative course was extremely unsatisfactory; she developed a wound infection which kept her in the hospital for thirty-eight days.

* * *

Case 7.—Patient 7107, had a pelvic abscess in 1925. Admitted to hospital in 1928 because of pelvic pain and fibroid tumor. The blood count and temperature were normal and the sedimentation rate was 240 minutes. The danger of lighting up an old focus was eliminated.

* * *

Case 8.—Patient 6100, normal blood count and normal temperature, had a sedimentation time of twenty-seven minutes. Hysterectomy was performed. A stormy convalescence followed.

* * *

Case 9.—Patient 8995, with a diagnosis of fibroids, showed a normal blood count and sedimentation time of forty minutes. Patient died thirty-one hours after operation. Diagnosis at death was given as toxemia and cardiac failure. Possibly the rapid rise in temperature, pulse rate and respiratory rate, indicated the presence of some infection which we did not discover.

TABLE SHOWING SEDIMENTATION TIME IN VARIOUS CONDITIONS

Table 1.—*Pregnancy*

No. of cases	Diagnosis	S. T.
33	Normal pregnancy	110 min.
25	Postpartum, normal	52
27	Postpartum, febrile	20
20	Abortion, 2-3 months	68
15	Abortion, febrile	30

Table 2.—*Malignancy*

No. of cases	Location	S. T.
11	Cervix	31 min.
8	Ovary	85
5	Breast	52
10	Uterus	80
3	Papillary cyst adenoma	23

Table 3.—*Infection*

No. of cases	Diagnosis	S. T.
18	Pelvic abscess	16 min.
22	Breast abscess	23
31	Salpingo-oophoritis, active	38
16	Salpingo-oophoritis, inactive	130
25	Pelvic infection, active	36
31	Pelvic infection, inactive	136

Table 4.—*Ectopic Gestation versus Salpingitis*

No. of cases	Diagnosis	S. T.
10	Ectopic (Polak and Mazzola)	105 min.
15	Ectopic (Recent)	115
31	Salpingo-oophoritis, active	38
25	Pelvic infections, active	36

Table 5.—*Ectopic Gestation*

No. of cases	From onset	Remarks	S. T.
1	1 day	Free blood	170 min.
2	8 hours	Faint, immediate operation	167
3	1 day	Some free blood	138
4	2 days	Fimbriated end	113
5	2 days	Boldt's sign	102
6	7 days	No sharp pain	92
7	6 days	Free blood	90
8	?	Tubal abortion	89
9	2 weeks	Rubin Test 3 months	74
10	12 days	Old P. I. D.	57
11	4 weeks	Peritoneal exudate	27
12	5 weeks	Hematoma, not removed	14

Table 6.—*Benign Tumors*

No. of cases	Diagnosis	Average S. T.
13	Ovarian cysts	180 min.
21	Fibroids	175
37	Fibroids and infection	65
3	Fibroids and necrosis	47

CONCLUSIONS

1. While Schmitz, reporting on eighty patients, and Cherry, reporting on seventy-one patients, state that the test is of no value, most writers believe it has its place in laboratory diagnosis when the blood count, temperature, and physical findings are correlated with it.

2. Rapid rates indicate infection. Slow readings exclude this possibility of infection, regardless of leukocytosis and elevation of temperature.

3. It also is suggested that it might be of use as a prerequisite in the Rubin test, insertion of radium in benign conditions and in diagnostic curettage.

4. As it is a simple procedure, its routine use seems justifiable because it may be a means of excluding the latent or quiescent infection, when an elective operation is under consideration, and thereby prevent prolonged convalescence, morbidity, and mortality.

1401 South Hope Street.

REFERENCES

1. Baer and Reis, S. G. and O.: 1925, xi, 691.

2. Linzenmeier, G.: Zentralbl. f. Gynak, 1920, xliv, 817.

3. Polak and Tollefson: Jour. A. M. A., January 21, 1928, xc, No. 3.

4. Fahrens, L.: Hygeia, 1918, xivii, 124.

5. Frommelt and Motiloff, Zentralbl. f. Gynak, 1926, I, 348.

6. Cherry: Am. Jour. Obst. and Gynec., 1926, xi, 105.

7. Polak and Mazzola: Am. Jour. Obst. and Gynec., 1926, xii, No. 3, 700.

8. Schmitz and Schmitz: Am. Jour. Obst. and Gynec., 1926, xi, No. 3, 363.

DISCUSSION

Donovan Johnson, M. D. (1930 Wilshire Boulevard, Los Angeles).—Doctor Tollefson's paper gives an accurate description of the sedimentation test as it is performed in the majority of clinics in this country. The small glass test tubes in place of the long capillary tubes first used and the standardized readings at the 18 millimeter mark simplify the procedure greatly. It is a test that anyone can use, whether experienced in laboratory work or not, and for this reason I believe it should be given a more extended trial. It will be only as we use this sedimentation test that personal conclusions can be drawn as to its value. We have listened to Doctor Reuben Peterson's hearty recommendation of the test this evening and, with the knowledge that others are finding it a distinct advantage in the diagnosis and prognosis of disease, I feel certain it will not be long until it is in general use.

While my experience with the test in gynecologic cases has been somewhat limited, I can say I have given it a good trial in obstetric patients. During the past year, at the Chicago Lying-In Hospital, it was used repeatedly in pathologic cases where the diagnosis was in doubt or where some light might be thrown on the prognosis of a given case. As has been brought out by others, the greatest value of the test is its capacity to show the severity of an infection. It is also valuable as being one of the most delicate tests in picking up an early infection. The importance of repeated examinations at frequent intervals cannot be overemphasized.

The value of the sedimentation test in obstetrics is somewhat limited, as compared to its usefulness in gynecology. This is due to the normal drop in the sedimentation rate during pregnancy which becomes confusing when comparing the rate with that in the nonpregnant state. It was in the hope of gaining a definite idea of this normal drop that a series of fifty cases were followed through pregnancy with tests made at regular monthly intervals, over two hundred and fifty determinations in all being made. The patients chosen were those passed on by the internists as being perfectly normal from a physical standpoint. Each sedimentation test was checked by the body temperature and white blood count. A definite curve was secured in each case, the greatest drop being reached by the sixteenth and twentieth week. A normal variation of between twenty and thirty minutes exists between different individuals, but it was striking how uniform the test remained throughout pregnancy in the same individual. An excessively low reading at any time during pregnancy may be taken as an indication of pathology, most valuable of course during the first half of pregnancy, when the normal rate is still relatively high.

*

Alice F. Maxwell, M. D. (University of California Hospital, San Francisco).—For the last three years every patient admitted to the gynecologic service of the University of California Hospital has had a sedimentation test done in addition to the routine clinical and laboratory examinations. In healthy women the blood sedimentation varies from three to four hours. As the result of observation on more than one thousand women, we feel that the repetition of the test and its correlation with the physical findings, temperature, pulse and leukocyte count is of very definite value. In the early weeks of pregnancy the rate of sedimentation is of little or no value in establishing the diagnosis; in general the sedimentation time decreases as pregnancy advances. Before the fifth month of pregnancy, when the diagnosis may rest between a rapidly growing myoma and a pregnancy, the test is of no great aid; after this period no special test is necessary to establish the diagnosis. A rapid sedimentation time in a nonpregnant woman indicates infection, although this infection need not necessarily be confined to the pelvis. A greatly decreased sedimentation time may be expected in all acute inflammatory conditions of the pelvis and in severe toxemias due to absorption of native or foreign proteins. Uncomplicated fibroids (leukocytes normal, fever free) invariably showed a slight increase of speed in sedimentation; degenerated fibroids (in afebrile women with normal leukocyte counts) showed a markedly increased rate. Large nonmalignant ovarian tumors also showed a more rapid sedimentation than the norm; if associated with adhesions or ascites the blood settled even more rapidly. Cervical carcinoma invariably showed a rapid rate; especially in the presence of necrosis or metastasis. Pelvic carcinoma, in general, showed rapid sedimentation. In pelvic inflammation a sedimentation time greater than sixty minutes is evidence against actual pus in the pelvis, one under thirty minutes is invariably found with purulent collections. It has long been recognized that a subacute or latent pelvic infection may be reactivated by surgical procedures, yet in these cases the leukocyte count and temperature curve are often normal. The rapid sedimentation, which is always found with these often unsuspected conditions, is a very delicate and accurate index of the infection, and a most valuable test for the virulence of the infection. The sedimentation test is also of value, from a prognostic point of view, in cases of sepsis, whether puerperal, postabortive, or postoperative. It responds more readily to the virulence of the infection than does the leukocyte or temperature curve, and is a more delicate prognostic index. This simple test is sufficiently dependable to warrant its use in every gynecologic patient.

Doctor Tollefson is to be congratulated on the concise presentation of his work and for the reasonable deductions drawn therefrom and for emphasizing the importance of a simple yet most valuable diagnostic and prognostic laboratory procedure.

KAHN PRECIPITATION TEST FOR SYPHILIS*

AS USED IN CONJUNCTION WITH THE WASSERMANN TEST

By NEWTON EVANS, M. D.
Los Angeles

DISCUSSION *by Gertrude Moore, M. D., Oakland; W. T. Cummins, M. D., San Francisco; Zera E. Bolin, M. D., San Francisco.*

FOR the greater part of a year at the serological laboratory of the Los Angeles County General Hospital the Kahn test, in addition to the Wassermann test, has been used on all sera to be tested for syphilis. During this time (231 days) such parallel tests have been done on 17,694 sera. Of the entire number of specimens (17,694) the two tests were in complete agreement in 17,112 (or 96.71 per cent), while in addition 210 (1.18 per cent) other specimens were in relative agreement.

An absolute agreement means that both tests are either negative, or both doubtful (plus-minus or plus), or both positive (two plus, three plus, four plus) in reactions.

A relative agreement means that one test is doubtful and the other test either positive or negative.

Absolute disagreement means one test is positive and the other negative.

Thus, of the entire number approximately 97.9 per cent were in either complete or partial agreement, leaving 2.1 per cent of complete disagreements. These results, based upon nearly 18,000 specimens, are very similar to other published figures. In Doctor Kahn's "Serum Diagnosis of Syphilis by Precipitation" he presents results of comparative tests upon over 100,000 sera in his own laboratory, showing combined complete and relative agreement in more than 99 per cent. T. J. Hull reports tests upon over 25,000 specimens with a combined complete and relative agreement of 97.8 per cent to which our results (97.9 per cent) are very similar.

It is evident that in laboratories where large numbers of such tests are made the results of the Kahn method closely parallel those of the Wassermann test.

OUR EXPERIENCE

For some months preceding our experiments with the Kahn method the laboratory was using the Kolmer system of the Wassermann test in which a preliminary qualitative test was made upon all specimens, followed by a Kolmer quantitative upon all cases in which the preliminary qualitative test was positive or doubtful. After several thousands of parallel tests were made and it became evident that the Kahn test could be relied upon as a routine method, we abandoned the plan of making Kolmer quantitative upon all positive or doubtful sera as evidenced by the preliminary qualitative Wassermann test, and applied the quantitative method only in those specimens where a disagreement appeared between the qualitative Wassermann and the Kahn test. This is our present plan and appears to us to be an entirely practical and satisfactory routine method of making serological tests for syphilis under the conditions existing in our hospital, where about one hundred specimens of sera come to the laboratory daily.

We think the present plan of making routine parallel tests, Wassermann and Kahn, has definite advantages over other methods, such as running the regular Wassermann with two antigens, or the method which was formerly used in our laboratory as described above, namely, the Kolmer qualitative followed by the Kolmer quantitative, or the plan of substituting entirely Kahn tests for the Wassermann method, which it is said is being done in some hospitals and notably in the United States Navy on ships away from their bases.

ADVANTAGES OF KAHN TEST

1. It is less time-consuming. Quicker results and reports can be secured and it is more economical for this reason.

2. It is much simpler, as one reagent only—the antigen—is required, in contrast to the several ingredients of the classical Wassermann. No animals are necessary to supply the fresh complement.

3. Reports of those using the Kahn method indicate that it is a somewhat more delicate indicator of the presence of syphilis than the Wassermann test. A higher proportion of treated cases and others not reacting positively to the Wassermann for reasons unknown do react positively to the Kahn test. Our experience confirms this opinion. In the 372 sera in our series where there was definite disagreement between the two tests, 229 were Kahn positive and Wassermann negative while only 143 were Wassermann positive and Kahn negative. In thirty cases where the clinical histories and findings indicated the presence of syphilis, twenty-one cases had positive Kahns and negative Wassermanns, while only nine had positive Wassermanns with negative Kahns.

4. An advantage of decided importance is the fact that in the great majority of sera which for any reason prove "anticomplementary" in the Wassermann test (manifesting an ability to bind or deviate the complement even in the absence of the antigen), making the reading of the test impossible in the ordinary titrations, the Kahn test is not interfered with and will give satisfactory information as to the presence or absence of syphilis. In our series from one-half to one per cent of the specimens proved to be anticomplementary, and in all of these satisfactory readings were secured without trouble by the Kahn test. The records of forty-two cases of this kind indicate that four were negative with the Kahn test and thirty-eight were positive. Thus, if we had been limited to the Wassermann method there would have been thirty-eight positive cases where we must have reported that no results could be secured because the specimens were anticomplementary. (There are methods of securing results on some of these sera by using high dilutions of

* From the Laboratory of the Los Angeles County General Hospital, Unit No. 1.

* Read before the Pathology Section of the California Medical Association at the Fifty-Eighth Annual Session, May 6-9, 1929.

the serum and appropriate quantities of the reagents, but these are extremely complex and time-consuming, and are not ordinarily used.)

DISADVANTAGES OF THE KAHN METHOD

1. It is not practical for tests of cerebrospinal fluid; at least we have found this to be the case in our experience. These specimens are tested by the Wassermann method.

2. It requires more experience and judgment to read the results of the Kahn reaction than to recognize the varying degrees of hemolysis in the regular Wassermann tests, and long training is essential on the part of a technician if the results are to be depended upon; consequently, it is not applicable to office work unless done by one who has had long experience in the method. On the other hand, it is possible that some of the modifications in which the test is made on a microscope slide and read with the microscope may be more dependable in the hands of persons without great experience.

3. In our experience the Kahn test is liable to be "temperamental" and the mixtures to vary in degrees of general cloudiness from day to day, so that if the parallel Wassermann tests were not available for comparisons one might be in perplexity as to the dependability of his tests. We have also found that the preparation of a satisfactory antigen is a more difficult and delicate process than it is to secure a satisfactory Wassermann antigen.

ADVANTAGES OF COMBINED METHOD

1. In our opinion it is preferable to use both tests in conjunction, especially in laboratories where many specimens are examined, for there is a small proportion of cases with wide disagreement (negative in one test and four plus in the other) in which the conflicting results are of value, for it is undoubtedly true that "false negatives" in properly checked tests, either Wassermann or Kahn, are much more frequent than "false positives," and therefore it is important to have the advantage of the knowledge presented by the "positives" from either method.

2. When the two systems are used side by side each serves as a check upon the other, and quickly makes evident any technical error or defective reagents.

3. Another advantage of making parallel tests is in learning to read the Kahn test. The beginner tends to strain his eyes and his imagination to see fine precipitates which are not there, and by reading them as suspicious (plus-minus) and checking against the Wassermann results which are evidently negative, he will realize he is attempting to read the precipitation test too closely.

In conclusion, our experience with the Kahn precipitation test leads us to regard it as a distinct addition to available and practically useful laboratory methods, and we believe it is particularly effective when used in conjunction with the Wassermann tests in laboratories where large numbers of specimens must be examined.

It gives me pleasure to acknowledge the faithful labor, the helpful suggestions and the enthusiastic coöperation of Bertha Ogburn and Muriel Chesnut, without which the preparation of this paper would have been impossible.

Los Angeles County General Hospital.

DISCUSSION

GERTRUDE MOORE, M. D. (2404 Broadway, Oakland). Doctor Evans' paper emphasizes the importance of the use of both the Kolmer complement fixation and the Kahn precipitant test in the study of syphilis. Our experiences check those of most workers, regarding the percentage of tests which agree. The Kahn reaction is inferior to the Kolmer in standpoint of specificity, and superior in that it gives positive readings earlier in the disease and longer after vigorous treatment. The Kahn reaction is of particular value in determining the point at which treatment should be stopped in old cases of syphilis. We are convinced that both tests should be used in all cases, but if this is impossible and one must be selected, there is no question but that the Kolmer reaction is more reliable and, therefore, the test of choice.

*

W. T. CUMMINS, M. D. (Southern Pacific General Hospital, San Francisco).—Any test for syphilis that may be used in conjunction with the Wassermann technique deserves consideration on account of the unmerited criticism which has been passed upon the Wassermann technique by reason of widely different reports from different laboratories. Numerous techniques have been offered and none appears to have survived substantially but the Kahn test. Many reports, which include the parallel examination of a large number of blood sera with both techniques, attest to the value of the Kahn. Doctor Evans has studied a very worthwhile number of sera. His report, confirming the work of Kahn and others, shows a very high percentage of agreement of the two techniques. There are well-recognized difficulties with and disadvantages of the Kahn test. The difficulties with cerebrospinal fluid later may be cleared away. Unquestionably the advantages materially outweigh the disadvantages of the test, and it stands today as a valuable means of examination for syphilis.

The discusser heartily agrees with Doctor Evans that the Kahn test is particularly effective when used in conjunction with the Wassermann. In my opinion, as implied also by Doctor Evans, the Kahn test should not be used alone.

*

ZERA E. BOLIN, M. D. (University of California Medical School, San Francisco).—The paper by Doctor Evans is in accord with the testimony of practically everyone who has run a large series of comparative tests using the Kahn and one of the modifications of the complement-fixation tests. The Kahn test is based upon the reaction of the "reagin" in the luetic serum with a very sensitive antigen. Positive reactions are shown by a precipitation of the colloids in suspension in the antigen.

Having had considerable experience with precipitation tests for syphilis, including the Sachs-Georgi, the Meinecke and its modifications, and the Kahn test, I feel that a precipitation test should never be used alone as a diagnostic procedure.

The ease of manipulation of the Kahn test lays it open to use by unskilled workers who do not understand the underlying principles. The antigen is hard to prepare. It is hard to dilute so as to get the same colloidal suspension upon which, in all probability, its sensitiveness depends. The precipitate is hard to read accurately, and the strength of the reaction depends upon the judgment of the person reading the test. It is most emphatically not a procedure which can be turned over to the office nurse. The specificity of this precipitation has yet to be checked in a large series of entirely negative sera. The conditions causing the precipitation of the colloidal suspension may be in-

voked by changes in the serum caused by other diseases.

In my opinion this test must be always substantiated by comparison with a sensitive Wassermann technique, and the best of these, as yet, seems to be Kolmer modification of the complement-fixation test.

SCABIES AND ITS COMPLICATIONS*

By THOMAS J. CLARK, M. D.
AND
FRANK H. STIBBENS, M. D.
Oakland

DISCUSSION *by George D. Culver, M. D., San Francisco; Robert T. Legge, M. D., Berkeley; C. Ray Lounsberry, M. D., San Diego.*

THE problem of the medical adviser is very often made difficult by the absence of any exact etiological data upon which to base a diagnosis, and aid judgment in formulating proper procedure for the care of his patient. But in scabies the etiology is known and the fog of uncertainty is entirely dispelled if proper caution is used in arriving at the diagnosis. The cure is attained by selection from a very few efficient remedies and by use of the same in the proper strength and mode of application.

Scabies is not a difficult dermatological question, but it is one that should be given careful treatment by the attendant doctor so that a very annoying condition may be properly and completely cured.

Cause.—The disease is caused by a minute animal parasite that lodges in the skin. This parasite is a spider. Human scabies is produced by a species known as *Sarcoptes scabeii hominis.* This variety has become adapted to human habitation and is readily passed on from one infested person to another. The substrata of society constitute the reservoir of hosts for the unending reproduction of the parasites. Mites allied to human acari are parasitic to horses, cows, goats, dogs, cats, chickens, and many other animals. These have made man a temporary host, but they do not become permanently entrenched as are the sarcoptes hominis.

Mites are found in every part of the world. Many are parasitic, but there are also varieties that exist on decaying matter both vegetable and animal. In museums they are troublesome to the specimens which must be protected from these destroyers that would literally eat them up.

From animal to man the transfer occurs most frequently by the variety that causes horse scabies.

After possessing its host the female parasite proceeds to burrow into the epidermis to a sufficient depth to secure its nourishment. The male enters the burrow for sexual mating after which it retires to the surface to seek out other females, or it burrows an offshoot for itself and dies in a few days, its life cycle from ovum through the moulting periods and adult sexual life lasting about one month. The female remains in its burrow and, after impregnation deposits eggs in the channel of the burrow at the rate of one or two each day, for a period of two or three months, then dies. The ova develop rapidly, the young mites appearing in from three to six days. At first there is a larva stage, the number of legs and bristles being less than for the adult. The body surface is then shed. More legs and bristles appear, and after the second moulting the now mature mite is ready for the reproductive stage. About one month in time is occupied from ovum to reproduction period, but it has been calculated that one female may have before her death several hundred thousand progeny. Thus the human Gulliver has plenty of Lilliputians to attack him.

The cause of the skin reactions in scabies is the wounding of the skin tissues by the burrowing of the acarus into the epidermal layers. This hominis variety of the parasite is not a surface organism, but undermines the horny stratified cell layers so that it may reach the lower portions of the epidermis. Here it has an abundant food supply, is secure from danger, and may deposit its ova for perpetuation. The burrow is, therefore, its home, its defensive quarters, its nursery, and its tomb.

Symptoms.—The outstanding subjective symptom of scabies is itching. So characteristic is this symptom that "the itch" remains the common name for the disease. It will vary in degree from an intolerable condition in sensitive individuals to but a passing inconvenience in the phlegmatic. There is loss of sleep from bed-warmth itching. If pyogenic inflammatory reactions occur to any extent, especially in children, there may be much tenderness and pain in the hands and feet, the buttocks, and the flexures.

The eruption is found quite generally over the body surface as a discrete vesicopustulation or papulation. The sites of preference are at the opposed surfaces of the fingers and finger webs, the wrists, ulna border, the axillary folds, the nipples and areolae, the buttocks and genitals. Uncomplicated lesions are small, like mustard seed. They are not confluent unless modified by eczema or pyogenic infection. Lesions in cases where treatment is not started promptly become larger and, as the parasites multiply, the skin becomes thickened and pustular. Such a patient presents a sorry-looking appearance. Scabies associated with diseases that modify the sensibility of the skin, as in paralytics or in leprosy, may become very extensive with thickened masses of crusts and offensive oozing.

Complications.—The complications of the disease are due to pyogenic organisms developing in the skin with the various phases of inflammation which they produce. Infection is the more readily brought about by the burrow destroying the defensive qualities of the cornified epithelium.

Furuncles, impetigos, adenitis, and phlegmons are produced.

Impetigos are frequent in children. The child becomes a mass of pustular sores and thick crusts that involve the scalp and face as well as the rest of the body. The original infection by scabies in these cases may be overlooked. The child may be

* Read before the Dermatology and Syphilology Section of the California Medical Association at the Fifty-Eighth Annual Session, May 6-9, 1929.

prostrated by fever and seriously ill from the sepsis.

Diagnosis.—Diagnosis of scabies in a well-marked case is simple. Discrete vesicopustules or papules distributed about the hands and fingers, the wrists, axillae, nipples, abdomen, buttocks and genitals, with the subjective symptoms of itching and loss of sleep is suggestive. The history will usually disclose more than one case in a family. The small burrows are not so easily seen. They may be found as coarse, threadlike lines, one-quarter to one-half inch in length, about the areolae of the nipples or on the glans penis. Urticaria, furuncles, impetigo, are frequent accompanying symptoms. The parasite may be extracted from its burrow in a recent vesicular lesion, by using the eye of a fine sewing needle as a small curette. It is not difficult to recognize, with a magnifier, portions of the mite's body or legs thus recovered from the skin.

Differential Diagnosis. — Diseases that would have to be excluded in the diagnosis are urticaria, eczema, pruritus, dyshidrotic conditions, herpes progenitalis, and chancre. Urticarial wheals are frequently seen in scabies. They may be due to direct irritation of nerve endings from the presence of the parasite in close contact to the nerve bulbs or as a proteid reaction from absorption of animal products from the mite. In uncomplicated urticaria a search should show absence of vesicles and papules suggestive of the itch. Eczema has confluent lesions that fade gradually into sound skin at its borders. Vesicular eczema of the hands and fingers will closely resemble scabies, but will usually remain localized.

Pruritus shows scratch marks and a red skin at times, but lacks the lesions of scabies.

Dyshidrosis, either tineal or inflammatory, shows predilection for the hands and feet, the palms and soles particularly. Its spread to other portions of the body is quite different from scabies.

Partially treated scabies may show remains of lesions about the genitals that are flattened papules, and in association with these are enlarged lymph nodes that would lead the unwary to mistake the picture for genital herpes or possibly a primary case of syphilis.

How soon we can promise to cure scabies depends largely upon the case and its complications. The parasites can be destroyed in a day or so in most cases, and in skins that are sensitive to chemical dermatitis a week or ten days will suffice to arrive at a satisfactory result.

Unfortunately a few patients become acarophobic. How one may convince these unfortunates that their tormentors are eliminated is a problem in mental therapy.

Treatment.—The treatment of scabies should be a very simple matter. We have a parasite lodged upon the skin and embedded at no great depth in the surface layers of the skin, easily destroyed by comparatively mild chemicals, such as sulphur, naphthols, or the balsams. The attainment of a rapid and complete cure is possible in the majority of robust children and adults by a thorough soap and water scrubbing of the skin surface. This lathering to be repeated two or three times in the course of a half hour and followed by a vigorous massage into the skin of a 12 per cent sulphur and a 4 per cent balsam of Peru ointment, which is not removed for twenty-four hours.

The bedding and clothing of the patient should be treated with heat to destroy parasites lodged therein. Failure to carry out this precaution with bedding and clothes will more than likely reinfest the patient.

This rapid method of treatment is desirable only in institutions or where circumstances would not permit of the milder and more prolonged care. The preliminary softening of the cornified layers of the epithelium to open the burrows and lesions by scrubbing is essential to permit contact of the chemicals with the parasite and the ova. But this intimate introduction of the antiparasitic agent into the wounded skin is liable to set up a chemical dermatitis, and if the last of the marauders has not been destroyed there is soon reinfestation of the skin.

In a large proportion of these cases our preference is to furnish the family or the patient with a strong stock ointment which is reduced in strength at the time of use by rubbing up with vaselin.

Instruct the patient to bathe with warm water, castile soap, and into the lather dust some powdered borax. This borax and soap lathering should be continued for ten minutes, rubbing well about the sites of preference of the parasite. After the bath apply a 4 per cent precipitated sulphur vaselin ointment in which is also 1 per cent balsam of Peru. Use this mild strength twice a day for two days and then bathe. If there are no ill effects from the chemicals have the patient double the strength of the ointment for the next two days. After the second bath, with change of clothing, the milder ointment can be used to finish the course of treatment for the week. Where a mild dermatitis is produced it is well to use 5 per cent oxid of zinc incorporated with the sulphur to take the place of the balsam of Peru.

In a family it is desirable to have all members use the mild ointment during a course of treatment, even should some show no signs of the disease. This extra vigilance will probably save cases of delayed appearance.

As "the itch" does itch, the patient is often the victim of the parasite for longer periods than is necessary because of friendly diagnosis by druggist, nurse, or companion, who ordinarily prescribes sulphur and lard because "that will cure the itch." Failure results from improper application of the remedy as well as from reinfestation from clothes, bedding, and human contacts.

1800 Madison Street.

DISCUSSION

GEORGE D. CULVER, M. D. (Four Fifty Sutter, San Francisco).—Doctor Clark and Doctor Stibbens have given us an excellent paper on scabies, and it is a timely one as the disease is unusually prevalent. They call attention especially to the infective complications. It is obviously true that this feature is one

of the most important, as skin infections too are prevalent.

No doubt in many instances we all fail to recognize the scabetic element when other conditions are marked. However, any widespread superficial infection should bring to mind the possibility of scabies as an exciting cause. And not in every instance is it a simple matter to prove the presence or absence of scabies.

When in doubt and when the typical runs are masked by added infection, or when the natural progress of the disease is held in abeyance by the patient's occupation, bringing his hands and forearms in contact with deterrent chemicals such as occurs with those working in the gasolines and oils, it is well to prove the presence of the mite or its eggs or feces. This usually can be done by slicing off a suspicious-looking lesion from a finger or wrist with a sharp blade, cutting as deep as the papillary layer, mounting the flat specimen in glycerin and examining it under a low power lens of the microscope.

Creolin has proved an excellent addition to the therapeutic armamentarium for the cure of scabies. It is an excellent scabicide in a nonirritating strength, and it has the additional most desirable feature of acting as a decided antiseptic help in clearing up whatever pyogenesis may be present. It also has a definite place with skins that are sensitive to sulphur.

It is always well to specify a particular preparation of creolin. The druggist knows the best one. Five per cent strength in vaselin or incorporated in unguentum acidi borici has proved most satisfactory.

✻

Robert T. Legge, M. D. (University of California Infirmary, Berkeley).—At the students' infirmary at the University of California, in Berkeley, we frequently see cases of scabies. For many years our methods of therapy were similar to those recommended by Doctor Clark. Since Greenwood published in the *Journal of the American Medical Association* in 1924 "The Danish Treatment for Scabies," we have used exclusively this highly successful method of treatment. This ointment depends upon the production of hydrogen sulphid, which enters the skin and is lethal to the parasite. The ointment is applied carefully all over the body except the hair, and the patient is then confined to bed for twenty-four hours. The next morning the treatment is completed by a hot soapy bath and the wearing of clean clothes. Failures are exceedingly rare, and one treatment is sufficient. Care must be exercised to treat all other cases in the family. Protection against reinfection by boiling underclothes, sulphur fumigation of bedding, and treatment of contacts is essential.

✻

C. Ray Lounsberry, M. D. (Medico-Dental Building, San Diego).—I have listened to Doctors Clark and Stebbins' paper on scabies with much interest, because we, as a profession, are prone to minimize the importance of ordinary diseases. Scabies has been a very prevalent disease since the war. We who were in the service would see whole companies of World War veterans infested with the itch mite. From our war experiences we have learned how to cope with this condition en masse. Now today we can profit by that experience, in our treatment, to some extent.

The Navy method of treatment was as follows: Routinely the men reported to the sick bay, complaining of the classical symptoms of scabies. Then a microscopic examination of the scrapings from a lesion was made to determine definitely the exact diagnosis in each case. The scabetics were then taken to a shower room and were given a hot bath and a scrub with tincture of green soap, after which they were told to rub into the affected areas sulphur in combination with balsam of Peru ointment. Then they were placed in the scabetic ward. Of course, all their clothes were removed and clean pajamas were given them; also clean bedding was provided daily. This treatment was continued from three to five days. At the termination of that time most of the uncomplicated cases appeared apparently well. Remember, these cases were isolated. Care should be taken to determine whether or not the patient is sensitized to sulphur, because a sulphur rash could be severe.

In our clinical practice in southern California, where we are called upon to treat so many illiterate Mexicans, who live in hovels of filth, the problem is difficult. They do not follow out directions, and when they do they immediately reinfest themselves. We have printed directions, translated in Spanish, and written in English, which helps us a great deal in our ambulatory cases.

Practically all our cases in San Diego are complicated with impetigo, as well as other pyogenic forms of infection associated with sand flee, mosquito, and other bites—combined with boils. Thus we have a mixture of diseases which are very hard to treat, especially when the ringworm fungus is found.

✻

Doctor Stibbens (Closing).—Primarily, we presented this paper to emphasize to the general practitioner the differential diagnostic points and the complications of the disease, particularly in relation to impetigo and other pyogenic infections. If this object has been attained we will feel that we have been amply repaid.

The Danish treatment, as cited by Doctor Legge, is a very valuable method of attacking the disease, but, unfortunately, cannot be used in treating the very young patient or in severe cases of impetigenous or secondary infection, without great danger of producing a very severe dermatitis.

In these cases we must first endeavor to subdue the inflammatory symptoms and then feel our way cautiously toward radical treatment of the disease by gradually increasing the strength of our parasiticides. These cases require application of boric acid lotion or weak liquor carbonis detergens at first and then, as improvement occurs, gradual change to betanaphthol or weak sulphur mixtures. Mercury in any form should be used with extreme caution if the lesions are extensive.

THE DIAGNOSIS AND TREATMENT OF LUNG ABSCESS*

By Frank S. Dolley, M. D.
Los Angeles

Discussion *by Philip H. Pierson, M. D., San Francisco; Harold Brunn, M. D., San Francisco; F. M. Pottenger, M. D., Monrovia.*

FIVE years ago a patient harboring a lung abscess rarely reached the surgeon. Many abscesses remained undiagnosed that are now recognized and those found were treated expectantly with little or no thought of surgical intervention in mind. The mortality under medical treatment alone was from 60 to 90 per cent. Today, with proper and correctly timed surgical intervention, the death rate in the large clinics is from 32 to 45 per cent. The treatment of subacute and chronic lung abscesses is rapidly becoming surgical, and with improving technique the mortality is steadily decreasing.

CAUSES OF PULMONARY ABSCESS

The causes of pulmonary abscess are most diversified. They can originate from the bronchi, blood or lymph. Very often the area involved heals without sloughing. Poor general condition and decrease in the bodily resistance contribute largely to lung cavitation. Diabetics, alcoholics and nephritics are particularly susceptible. Fol-

* Read before the General Medicine Section, California Medical Association, at the Fifty-eighth Annual Session, May 6-9, 1929.

lowing penetrating wounds of the chest or even chest contusion, lung abscess is not uncommon. Aspiration of food or other foreign bodies leads frequently to lung abscess. In a strong young person sharp demarcation is the rule. The area is sloughed out, the sequestration is expectorated and smooth healing can occur. A pulmonary abscess following a metastatic infarct from an infected focus in some other region of the body in a patient exhausted from previous illness, tends not to be well walled off but to extend into the surrounding lung tissue. It is this type that is most unfavorable.

The majority of lung abscesses develop in connection with bronchopneumonia. Influenzal pneumonia is particularly liable to such a complication. In a pneumococcus inflammation of the lungs an abscess is seldom seen. In the fibrinous lung inflammation of the emphysematous, pulmonary abscess is not an uncommon sequela.

SYMPTOMS

The symptoms are by no means clear-cut. Diagnosis is not always easy. The history is of great importance and should be painstakingly obtained if the patient is suffering from pulmonary inflammation. A severe chest contusion might have caused a pulmonary hemorrhage with secondary infection and abscess formation. A history of choking while eating, or of unconsciousness from any cause may suggest the contributing factor. Often careful inquiry elicits a past history of sinus or throat infection, grippe, enteritis or furunculosis, from which even weeks later a metastatic septic infarct into the lung could initiate a lung abscess. Leg ulcers are particularly prone to be the seat of the original inflammation.

When a pneumonia does not undergo resolution, when fever and rapid pulse continue and when the cough, whether productive or nonproductive, persists, softening of the lung tissues leading to abscess formation should be strongly suspected. Sudden profuse expectoration of purulent material is highly suggestive. If culture of the pus shows a mixed infection, the diagnosis is practically assured. Before the lung abscess breaks into a bronchus the cough is dry and more or less constant from irritation of the vagus nerve terminals in the bronchial walls. After bronchial communication is established there may be cough only as the abscess refills.

Parenthetically, it is of value to note in the differential diagnosis between empyema ruptured into a bronchus and lung abscess, that in the former condition the pus shows regularly a pure culture of some one organism and that this cough is generally constant rather than periodic as obtains with lung abscess.

The physical signs are extremely variable and seldom aid materially in the diagnosis. The finding of greatest significance is the variance in the auscultatory sounds over the suspected area upon change in the position of the patient. With the abscess containing fluid no sounds may be heard, but with change of the patient's posture the fluid may gravitate into another region, giving râles and amphoric breathing over an area previously dull and silent.

DIAGNOSTIC AIDS

Aside from the history the most important diagnostic aid is fluoroscopy and x-ray films. Fluoroscopy should be done with the patient in the upright position if his condition possibly permits it. Films of the subject flat in bed are worse than useless. No fluid level can appear in this position. The shadows are vague and indistinct, more suggestive of broncho- or lobar pneumonia or empyema, than lung abscess. In the upright position a fluid level often appears, immediately simplifying the diagnosis. Under the fluoroscope change of position in the presence of a fluid level enables one to shift the air bubble above the fluid in various directions, thus definitely outlining the limitations of the cavity. Upright anteroposterior stereoscopic films and a single lateral one should always be taken, for they are almost an indispensable aid in abscess localization.

Lipiodol to delineate the abscess cavity is a material help. Theoretically it would seem easy for the bronchoscopist to find the particular lobe bronchus from which pus is issuing, inject lipiodol and at once by x-ray demonstrate the abscess. However, this does not often occur. The instruments have narrow lumina, the oil is thick, considerable pressure must be exerted to inject it and the portion of the lobe receiving the delineating oil becomes drowned. The fluoroscope reveals a rather solid wall of lipiodol conforming neither to the lung tree nor the supposed abscess cavity. It may or may not be the seat of the inflammatory process. Far more satisfactory is it for the bronchoscopist to inject through a larger instrument without pressure, the main right or left bronchus and allow the oil to gravitate into the various branches of the bronchial tree. It is seldom that oil is shown within the cavity itself, but often the surrounding uninvolved bronchi are splendidly disclosed so that by elimination localization may be greatly furthered.

In the region of the chest presumably involved an area sensitive to pressure can quite commonly be found, if the abscess be not deep within the lung. The author believes this to be one of the most reliable signs in the localization of a lung abscess. Pressure tenderness, if present, in conjunction with the other diagnostic procedures generally locates the abscess sufficiently to warrant approach at this spot. It is the failure properly to localize the abscess and, therefore, the failure in the operative treatment that has heretofore so dampened the ardor of the physicians for surgical consultation.

TREATMENT OF LUNG ABSCESS

The treatment of lung abscess now confronts us. Those who develop pulmonary suppuration are at first and properly under the care of a physician. During the acute stage before definite demarcation has occurred the treatment should continue medical. But when an abscess is definitely established, whether it is discharging through the bronchus or not, if the patient is not

steadily improving, the possibility of surgical intervention should be considered, not by the physician, but in actual consultation with the surgeon with whom in case of surgical intervention he would intrust his patient. There is one exception to the above statement of initial delay. In diffuse lung gangrene, immediate extensive thoracotomy is most emphatically indicated.

Despite the fact that the abscess has broken into a bronchus and its contents are being expectorated, if after six to eight weeks of bed rest, postural drainage and bronchoscopic suction evacuation, the cavity is not steadily decreasing in size and the patient improving, operation should be advised. When localized lung suppuration is suspected but no bronchial perforation has occurred and therefore no tell-tale fluid level is shown to make the condition evident, if the patient is becoming progressively weaker and his symptoms point strongly toward the sloughing of lung tissues, external drainage should be accomplished as soon as anatomical demarcation of the abscess is assured. This indication also appears usually six to eight weeks after the onset of lung inflammatory symptoms. This is not radical since surgery properly performed as to time and method has nearly bisected the mortality from lung abscess during very recent years. It is the protracted medical treatment that is often radical.

During the period of waiting for demarcation many abscesses heal spontaneously by expectoration. This is particularly true with an abscess developing during bronchopneumonia. After this initial period the percentage of spontaneous recoveries rapidly decreases. Upper lobe abscesses drain better, since gravity greatly aids. Collapse of the cavity walls, however, in these upper lobe abscesses is often prevented by adhesions of the pleura to the narrow rib-ring at the thoracic apex. Lower lobe abscesses are emptied by increased expectorative effort. In the latter the intervals between sputum production are longer and the amount of sputum greater.

The aspiration of a lung abscess for the purpose of localization is almost invariably contraindicated until the parietal pleura is exposed and definite assurance has been obtained that the two pleural leaves are adherent. An exploratory puncture without this assurance is extremely hazardous to the welfare of the patient. The needle withdrawn from the abscess is very liable to convey the infection into a pleura totally unprepared for bacterial invasion. Extensive infection of the pleura occurs, a so-called pleural sepsis follows and death is the usual ending. A small thoracotomy opening to drain this extremely septic material is not sufficient. To be life-saving, an extensive rib resection must be carried out at the most dependent part of the pleural space with gauze tamponade between the pleural leaves. Exploratory needling therefore is definitely excluded from our diagnostic armamentarium until we are actually prepared to evacuate the pus.

When operation has become the procedure of choice and the collection of pus has been located with as much exactness as possible in regard to position relative to the chest wall, a local thoracoplasty is performed directly over the presumed site of the abscess.

It is important that rib sections be removed over an area definitely larger than that occupied by the abscess in order that there may be collapse of the pleura and adherent lung sufficient to aid in the obliteration of the cavity after its evacuation. It is far better to resect too many than too few ribs. The intercostal muscles, vessels and nerves together with the rib periosteum should be excised in order to reduce the postoperative pain from pressure of the drainage tube or gauze as much as possible. Without periosteal excision, rib regeneration often pulls apart the cavity walls again or prevents their coaptation.

If the pleural leaves are not firmly and broadly adherent they must be made so, provided the patient's condition permits it. It is much safer to do a two-stage operation, proceeding no further in the first stage than to expose the parietal pleura, and tampon tightly with gauze against the parietal pleura; and do the second stage eight to ten days later after adhesions have developed. If, however, immediate drainage of the abscess seems imperative, then one of two means may be employed to exclude the general pleural space. One may sew the parietal to the visceral pleura as far from the site of the proposed opening into the abscess as possible; or one may pack tightly with gauze between the pleural leaves at some distance wide of the abscess. The latter method has given much more satisfactory results and is accomplished in but a few moments.

Positive intrapulmonary pressure under gas and oxygen anesthesia is indispensable in the one-stage operation if the pleural leaves are not adherent. The mask about the patient's mouth and nose should fit tight enough so that the anesthetist can raise the pressure within the breathing bag sufficient to inflate the lung and bring it tight against the chest wall. When the parietal pleura is opened, collapse of the lung is thus prevented. Palpation of the lung thus somewhat inflated is rendered much easier. The anatomical relation of the area of the lung induration to the chest wall opening is more certain. Moreover the packing of the gauze between the pleural leaves about the abscess can be successfully accomplished only by positive pressure, since without this the lung under the influence of a large open pneumothorax collapses towards the mediastinum and is therefore inches away from the chest wall.

General narcosis should be limited to the shortest possible time. It is usually preferable to resect the ribs and expose the parietal pleura under local anesthesia, have the patient attempt to raise and expectorate what pus may have accumulated within his abscess cavity, then to proceed at once thereafter with gas and oxygen anesthesia under positive intrapulmonary pressure.

The choice of approach to the pulmonary abscess is important. Pus lying in the upper lobe is best reached from behind or through the axilla.

In the posterior approach for an upper lobe abscess, the second to the fifth ribs should be excised paravertebrally for six to fifteen cm. The scapula is abducted and drawn laterally. One then has an opportunity to examine the larger part of the lobe suspected of harboring the abscess. If the abscess lies anteriorly or laterally the axillary incision is usually the best. The arm is elevated and the second to fifth ribs exposed. There is little muscle in this neighborhood and the approach is comparatively easy. It is seldom necessary to open a lung abscess anteriorly. It is only indicated when the abscess is a cortical one in the anterior chest region. Lower lobe abscesses are the easiest to drain externally. The site of choice is also posteriorly. Usually the paravertebral incision with the removal of portions of the fifth to eighth, or sixth to tenth ribs is the most favorable one. A good view is afforded of the lower lobe and orientation then is not difficult. Often with an extensive abscess of the anterior or middle lobe, a transverse axillary incision with a second incision downward through the middle of its course affords the best exposure.

When the parietal pleura is thoroughly exposed and pleural adhesions are assured, then and then only is it permissible and advisable to explore with a needle. When the pus is found, entrance into the abscess is most safely effected with the thermocautery. Tearing of the lung tissues very greatly increases the danger of air emboli. Direct incision is not contraindicated, but hemorrhage is sometimes more difficult to control without packing. The danger of air emboli is greatly reduced if the patient is under positive intrapulmonary pressure when the lung tissue is entered, since positive pressure within the lung in a large measure excludes the possibility of the entrance of air into the open veins. The external wall of the abscess should be opened as widely as possible to insure healing of its walls from within outward. Gauze packing or rubber tubes wrapped in gauze allow the best drainage.

SUMMARY

The time allotted can permit no more than a very hasty survey of the treatment of pulmonary abscess. Medical and bronchoscopic treatments are of very definite value. Many cures are thus effected. These cures occur in a very great majority of cases, however, during the first eight weeks. Thereafter the percentage of complete recoveries markedly decreases and the mortality rate rises. If the pulmonary abscess is deeply situated within the lung, artificial pneumothorax is strongly indicated for trial. It often dramatically obliterates the cavity. If the pleural abscess is situated more superficially, artificial pneumothorax is a very hazardous procedure. Should perforation through the visceral pleura occur, pleural sepsis follows with its high mortality. A temporary paralysis of the diaphragm on the involved side, accomplished by crushing of the phrenic nerve in the neck frequently relaxes the pulmonary tissues sufficiently when an abscess is discharging through the bronchus to effect a complete and permanent obliteration of the cavity. This result is rarely achieved, however, except during the acute or subacute stage of the disease.

The internist should never desert his patient. Medical treatment is constantly required and the interests of the patient are best conserved by his frequent consultation with the surgeon during the patient's postoperative course. It is the consensus of opinion today among those who have had the most experience in its surgical treatment that during the period of development and anatomical demarcation a pulmonary abscess is best treated medically; but that after an abscess is definitely diagnosed and walled off, unless the patient is showing steady improvement, the best prognosis for lung abscess is by a rightly timed and carefully conducted surgical intervention.

1247 Roosevelt Building.

DISCUSSION

PHILIP H. PIERSON, M. D. (490 Post Street, San Francisco).—This paper of Doctor Dolley's has offered us a very clear and concise system of procedure in the diagnosis of pulmonary abscess and in its treatment. In this condition, the closest coöperation of the group, consisting of the bronchoscopist, surgeon and internist, is of utmost importance. If this coöperation and consultation begin early, they will be of more value than when asked for just before their particular services are given. Intensive medical treatment does not mean a passive attitude, waiting for nature to do everything herself, but it requires careful explanation to the patient about the type of posture most suited to him, the preference of circulating fresh air to merely open air, as to an easily digestible as well as a high caloric diet, particular care of his mouth and sunshine when this can be used locally with safety.

Artificial pneumothorax is very frequently suggested as a possible form of treatment, but it seems to me its usefulness is so limited, namely to central abscesses where dangerous bleeding is a part, as to be practically nil. These abscesses generally do well under posture plus bronchoscopy.

In acute abscess lipiodol gives very little information which is not gained from the pictures, as previously suggested. When the lipiodol is massed in one section of the lung, it may suggest the presence of an abscess where there is none (a matter discussed at some length by Mosher). When bronchiectasis has developed about a cavity, lipiodol is then helpful in detecting its amount.

Series of roentgenograms are of great aid in determining not only the ultimate prognosis, but the rate of progression of the disease condition. We have found lateral films of a great deal of value in properly determining the location and extent of these abscesses.

As has been said, intensive medical treatment greatly reduces the mortality in pulmonary abscesses, but at times too long a delay in resorting to surgery will allow the abscess wall to become so rigid that thoracotomy and even thoracoplasty will not be followed by collapse and it is to avoid this condition that the coöperation of the group is of utmost value.

*

HAROLD BRUNN, M. D. (384 Post Street, San Francisco).—Doctor Dolley has given us a very clear and concise picture of lung abscess as we see it clinically, and has laid down some very important data for our consideration.

In our own work we find ourselves operating less and less for the acute abscess. Under proper handling we feel that a larger and larger percentage of these cases are cured by expectant treatment; carrying out a number of carefully planned procedures for each individual case. It is important, however, that if these procedures do not relieve the patient operation should

be undertaken, as Doctor Dolley points out, before the abscess becomes chronic.

The treatment for an acute and a chronic abscess is therefore very different. In the acute abscess we attempt to establish drainage by posture, by bronchoscopy and by artificial pneumothorax, and we choose the method or methods depending upon the case and its progress.

Of these methods probably the bronchoscope is the most important in removing plugs or granulations or opening up a bronchus with cocain and adrenalin, allowing the discharge to be liberated. At times also we use in addition after such bronchoscopies carbon dioxid and oxygen to increase ventilation of the lung, which in turn tends to keep the cavity empty. We try to be extremely careful not to allow time to slip by until the patient shall have become so seriously weakened by continued infection as to make recovery difficult, even by operative interference.

The course of many of these abscesses is very erratic and each case requires individual study. We feel that one can be very easily stampeded into a too early operation, and if this occurs death may ensue from the dislodgment of emboli which might otherwise have cleared up under some carefully provided system of drainage. Those patients that have hemorrhage along with expectoration are the ones that are the most trying and in these we attempt an early pneumothorax. Bronchoscopy here becomes more dangerous and operation also carries with it a higher mortality.

In conclusion we wish to repeat that our operations have diminished more than half and we believe we are clearing up our cases in a much quicker time by correlation of the different methods of producing drainage of the abscess.

❊

F. M. Pottenger, M. D. (Monrovia).—Doctor Dolley's paper on the diagnosis and treatment of lung abscess presents to us an excellent discussion of one of the most difficult problems in chest disease. The old method of draining an abscess as soon as it is diagnosed is wrong. During the acute state of an abscess it should always be given an opportunity to heal, and operative procedures should not be undertaken until the abscess is walled off. When the acute pathologic changes have come to a standstill, and the abscess is walled off, then operative procedures should be undertaken, if deemed necessary.

In some of these cases pneumothorax will compress the tissue and bring about a satisfactory healing. In other cases it seems to be insufficient and wholly fails to control the pathology.

If after a few weeks' medical observation the abscess does not show a tendency to heal, the surgeon should always be called into consultation.

Aside from pneumothorax, in the treatment of early abscess, drainage may be assisted by posture and also by bronchoscopy. Where the abscess drains slowly, bronchoscopy has often given marked relief. Unless free drainage is established and maintained there is no possible chance for healing.

❊

Doctor Dolley (Closing).—I feel that little need be added except by way of emphasis on the points so well brought out by the discussers. I shall close with but a word of further caution in regard to the employment of artificial pneumothorax in the presence of acute or even chronic lung abscess if a recent flare-up involving the surrounding lung tissue is evident. I am firmly convinced that even if a lung abscess be apparently deep-seated there is grave danger of acute pleuritis with overwhelming toxemia developing (under artificial pneumothorax treatment) either through needle injury to lung in an infected area or by actual extension of the inflammatory process to the visceral pleura with subsequent rupture into pneumothorax cavity and that only in the chronic or late subacute lung abscesses, when all signs of surrounding pulmonitis have disappeared, is this procedure safely indicated for trial.

CARCINOMA OF THE CERVIX—ITS SURGICAL TREATMENT*

By Hans von Geldern, M. D.
San Francisco

Discussion *by William H. Gilbert, M. D., Los Angeles; Emil G. Beck, M. D., Chicago; C. G. Toland, M. D., Los Angeles.*

PREVIOUS to the comparatively recent introduction of radiologic therapy, surgery had been considered the method of choice in the cure of uterine cancer. As treatment with radioactive rays was developed and perfected, however, many of the strong advocates of radical surgery were gradually won over to radiologic therapy on the basis of the excellent results reported and the almost complete absence of primary mortality. Gynecologists are still divided as to the preferable procedure, especially in the early cases of carcinoma of the cervix.

EARLY SURGICAL PROCEDURES

The first systematic attempts at the surgical cure of cervical cancer consisted of high amputations of the cervix and vaginal hysterectomies. Freund in 1878 introduced the removal of uterine cancers by the abdominal route and had quite a following, but this operation in the hands of others was decidedly unsuccessful and surgeons again turned their attention to the original vaginal technique, obtaining far better primary results. During this same period Byrne introduced cautery amputation of the cervix, reporting a number of cures. Operators, however, soon realized that their failures were the result of incomplete excision of carcinomatous tissue, and a number of surgeons, notably Ries, Clark and Werder, again became interested in the abdominal approach, developing a radical procedure which was perfected and popularized by Wertheim. Werder later abandoned the operation he originally proposed for a combined vaginal and abdominal cautery extirpation.

RADICAL OPERATIONS

The original Wertheim operation consisted of the removal of the entire uterus, tubes, ovaries, parametria, paracervical tissues and part of the vagina, along with an extensive dissection of the regional glands. At that time the only hope for cure was dependent upon dissecting wide of the carcinomatous extensions and the technique carried with it a high mortality. In the earlier years of radical surgery many hopelessly advanced cases were operated upon, but in subsequent years the pendulum gradually swung back to less radicalism, with more careful selection of patients for operation and improvements in technique.

P. Werner of the II Frauenklinik, Vienna, recently described his present technique. He warns against immediate preoperative manipulation or examinations, and advises spinal anesthesia. Werner emphasizes the importance of after treatment, especially the care of the bladder, and carries out postoperative roentgen radiation on all patients as soon as possible after the operation.

* Read before the Obstetrics and Gynecology Section of the California Medical Association at the fifty-eighth annual session, May 6-9, 1929.

Coincident with the development of the radical abdominal technique, Schuchardt announced an extended vaginal operation which was improved upon by Schauta. This improved operation embodies the same principles of block dissection of the pelvic organs and their ligamentous connections, but fails to eradicate involved glands distant from the parametria. Contamination of the operative field, a great source of danger in the abdominal operation, is avoided by sewing together a vaginal cuff about the infected cervix. The operation is facilitated by a paravaginal incision, which shortens the vagina and makes the parametria accessible.

Statistics indicate that the incidence of injuries to the adjacent organs and the percentage of five-year cures are about equal for either type of operation. Most surgeons prefer the Wertheim technique for its accessibility, but in general agree that the radical vaginal operation is especially adapted to patients who are suffering from constitutional diseases, to the obese and the aged. The primary mortality following the Schauta operation is only about one-third that attending the Wertheim. The former technique, in the past, has been condemned by many because of its inability to reach metastatic glands, but at present few surgeons still advise the routine removal of lymph glands, as the experience of Schauta, Weibel, and others has been that few patients with lymph gland metastases have been cured by surgery. Gellhorn points out that each method has its special virtues and that gynecologists should have at their command the technique of both operations.

Whereas many surgeons, especially in America, have stopped operating altogether for cervical cancer, others still adhere to the radical abdominal technique either alone, or in combination with radiation, and a few advocate simple panhysterectomy after complete preoperative radiation. Stoeckel and Toth routinely use pre- and postoperative radiation in conjunction with the Schauta operation. Keene, Gardner, Kuhn, and others favor cautery amputation followed by radium, especially in early cervical cancer.

SELECTION OF PATIENTS FOR OPERATION

Before radium entered the therapeutic field the aim of surgeons was to increase the number of operations for cancer of the cervix to a maximum. At that time 50 to 90 per cent of patients were operated upon. At present operability implies that the growth is of such limited extent that a permanent cure may be reasonably expected. In general less than 20 per cent of patients with cancer of the cervix are now considered operable. Most gynecologists now agree that the criteria for classifying patients as operable are normal mobility of the uterus, flexible and noninvaded fornices, lack of parametrial infiltration, patency of the cervix, afebrility and absence of pathogenic organisms in the cervical secretions.

An increase in the number of surgical cures will depend on earlier diagnoses, all border-line cases being reserved for radium. Some investigators contend that surgery should be reserved for patients upon whom a positive diagnosis can be made only through biopsy examination. However, Bonney, whose operability rate is about 55 per cent, has obtained remarkable results, curing 33 per cent of patients with carcinomatous lymph glands. He claims that the bars to operation are deep and extensive infiltration of the bladder or rectum and obstruction of the ureters, and has overcome involvement of the whole vagina by means of his supra-Wertheim operation. Notwithstanding the contention that radium cures as many operable cases as surgery, it is recognized that there is a group of adenomatous cancers, comprising about 5 per cent, which fail to respond to radium therapy and are, therefore, best treated by surgery if within the limits of operability.

PROGNOSIS

The grouping of cervical carcinomas proposed by Schmitz segregates these tumors into four groups, according to the clinical extent of growth. It is agreed that tumors belonging to Group 1 are clearly operable and in general offer a good prognosis, providing there are no surgical contraindications and that a skillful radical operation is performed. Patients belonging to Group 2 offer a questionable prognosis and should no longer be operated upon, while those classified in Groups 3 and 4 are definitely considered inoperable. Experience has made it apparent that the clinical extent of growth is of greatest prognostic indication as far as surgery is concerned.

Martzloff recently made a study of the histopathologic material obtained from a group of patients upon whom radical surgery had been performed, in order to determine the criteria essential to establish the prognosis following operative treatment. His classification of epidermoid cancers, based upon the predominating type of cell, and grouping according to the degree of cellular differentiation, was used; a classification not unlike in principle to those of Broders and Schottlaender and Kermauner. Each type, as well as the adenocarcinomas, was studied separately with respect to the duration of symptoms, clinical extent of growth and the ultimate results. Symptoms of over eight months' duration put the cases with spinal and transitional cell types beyond the hope of operative cure, while those exhibiting the more malignant spindle cell type were found hopelessly advanced before this time. Metastases and paracervical extension indicated a poor prognosis in all types. Of the operable cases the adenocarcinomas and spinal cell growths showed the greatest incidence of permanent cures, and the spindle cell types the least.

Most investigators, however, place more emphasis on the clinical stage than upon histologic grouping, when surgery is used, while Wintz, Plaut, and others claim that there is no reliable basis for histologic prognosis in cervical cancer. Efforts have been made to establish a prognosis from a study of biopsy specimens, but the recent investigations of Martzloff have shown that about

one-third of the material studied failed to indicate correctly the predominating variety of cancer cell in the parent tumor.

PRIMARY MORTALITY AND COMPLICATIONS

Generally speaking, the primary mortality attending radical surgery has shown a marked decline, due to a reduction in operability and improvement of technique, but figures from different clinics show wide variation. This may be accounted for on the basis of the types of cases selected and the methods of operative management. Twenty years ago an operative mortality of 20 to 25 per cent was considered the average for experienced surgeons. Statistics collected by Jacobson in 1911, by Janeway in 1919, and Heyman in 1927 show an average operative mortality of 19.5, 18, and 17.2 per cent respectively, and Lynch's figures, based on over three thousand Wertheim operations performed by European and American surgeons, showed 16.5 per cent. Thirty per cent of Wertheim's first one hundred cases died, the mortality being later reduced to 10 per cent. Werner reports that the present operative mortality for cervical cancer in Wertheim's clinic is between 5 and 6 per cent. The percentage of operative deaths in Franz' clinic has dropped from 23 to 14 per cent and at Johns Hopkins from 14 to 7 per cent. Recently Zweifel, Weibel, Graves, and Jeff Miller report from 4 to 7 per cent. Operators using the Schauta technique now have a primary mortality of between 3 and 4 per cent. German surgeons have reduced the death rate by the use of spinal anesthesia. A reduction of surgical mortality is most essential to operative treatment in its competition with radiologic therapy.

Improvements of technique and more limited selection of patients for operation have also brought about a reduction in postoperative complications. At Johns Hopkins the following complications occurred in order of frequency: Infected wounds, vesicovaginal and ureterovaginal fistulae, thrombophlebitis, peritonitis, nephropathies, pulmonary complications, rectovaginal fistulae, and intestinal obstruction. Shock, peritonitis, pulmonary and urinary tract complications were responsible for the deaths.

END RESULTS

In order to evaluate with some degree of accuracy the results obtained in the treatment of cancer of the uterus, Winter proposed as a standard of curability, freedom from recurrence for a period of five years. From 2 to 6 per cent of cervical cancers recur after five years, but this is offset by the difficulty of tracing over a longer period. Before the advent of radium, when surgery was the only means of cure, a calculation of absolute cures seemed the fairest means of determining results, as operators differed so widely in their methods.

Heyman's statistics, collected from twenty operative clinics, showed an average absolute curability of 19.1 per cent and an average of 16.3 per cent for seventeen clinics using radiologic treatment. These figures can hardly be compared as the radium statistics represent different material and more recent work.

With radiologic therapy now a competitor of surgery, the percentage of relative cures has become a better index as to the results of either type of therapy in similar cases. Some 3659 extended operations, collected from the literature by Heyman, showed an average of 35.6 per cent recovery. No doubt a considerable proportion of these cases could not be considered operable in the sense with which we use the term today. Five-year end results, collected from twelve radiologic clinics, showed an average of 34.9 per cent in operable and border-line cases. Wille, Weibel, Warnekros, Faure and Bonney, enthusiastic advocates of radical abdominal surgery, in their more recent reports show ultimate cures in early cases ranging as high as 75 per cent, quite comparable to the results obtained in similar cases treated radiologically in the clinics of Heyman, Ward, Bailey and Healy, and Doderlein. It must be remembered, however, that these surgeons are unusually skillful and have developed the technique over a period of years before such results were obtained. A number of surgeons have obtained better results after using pre- or postoperative radiation in conjunction with their radical hysterectomies. The use of radium in combination with cauterization or electrocoagulation is in its experimental stage. Five of six early cases treated by cauterization and radium, reported by John G. Clark, have recovered. Extensive cauterizations and starvation ligations as palliative procedures in advanced carcinomas have been largely superseded by radiologic therapy.

STANFORD CLINIC OBSERVATIONS

Of eighty-seven patients with carcinoma of the cervix treated in the Stanford women's clinic from 1912 to 1924, twenty-six were radically operated upon and of these 38.5 per cent remained free of recurrence five or more years. The operative mortality was 11.5 per ment with no operative deaths among fifteen patients treated between 1918 and 1924. The absolute curability was 13.8 per cent. Most of the patients were treated with radium, preoperatively, four to five weeks prior to operation, postoperative radiation being reserved for cases in which there was incomplete extirpation or in which recurrences developed. Palliative procedures used in the treatment of inoperable cancers consisted of the use of acetone, Percy cautery, Pacquelin cautery, and radiation. There was no apparent relation between the duration of symptoms and the clinical extent of the disease. Since 1925, with the hope of improving results, radium has been used in this clinic almost to the exclusion of operative interference, following the cross-fire technique used at Radiumhemmet. Thus far too few patients have been followed over a sufficiently long period to draw conclusions.

CARCINOMA OF THE BODY OF THE UTERUS

Many of those who have completely abandoned operative procedures for cancer of the cervix admit that surgery is indicated in carcinoma of the fundus. Controversy still exists as to the

extent of removal. Although Weibel and Peterson obtained their best results by using the radical technique, the present method of choice is total hysterectomy with bilateral adnexectomy. It is an accepted fact that this method offers from 65 to 80 per cent permanent cures. Some European operators favor vaginal hysterectomy for body carcinoma. Eymer, Polak, Crile, Ward, Healy, and others advocate total hysterectomy and salpingo-oöphorectomy along with preoperative and also postoperative radiation if necessary. The uterus may be removed either a few days or from four to six weeks after thorough intra-uterine radiation.

It is all important that an early diagnosis be made. Diagnostic curettage must be followed by intra-uterine radium unless laparotomy is to be performed at once. The prognosis in general is better than in cancer of the cervix, due to a relatively late penetration and involvement of the surrounding structures and a lower degree of malignancy. Mahle studied these tumors histologically and found that cures were much more frequently obtained in the less malignant types. Norris and Vogt, in a study of 115 cases of body carcinomata, report a primary mortality of 7.3 per cent, with 50 per cent of operative cases and 35 per cent of those treated by radium surviving a five-year period. Van S. Smith and Grinnell report five-year cures in 45 per cent of a similar group treated by surgery. They express the opinion that radium is inferior to hysterectomy in the treatment of fundus cancers. The results, with operative treatment on 323 operable body carcinomas collected from eight clinics, showed an average of 58.8 per cent recovery, whereas 118 operable cases treated with radium showed 47.5 per cent. Sixty per cent of the operable patients treated at Radiumhemmet were cured, and on the basis of these figures Heyman concludes that radium can well compete with surgery in the treatment of body carcinomas.

CONCLUSIONS

1. There is a general tendency toward the limitation of radical surgery to carefully selected early cases of carcinoma of the cervix.

2. The clinical extent of growth is the greatest single prognostic indication following extended operations.

3. Experienced surgeons are now operating for cancer of the cervix, with a primary mortality of less than 8 per cent.

4. The best surgical results are obtained when radiation is used in conjunction with extended operations for cancer of the cervix.

5. Panhysterectomy and double salpingo-oöphorectomy in conjunction with radiation is the method of choice in the treatment of carcinoma of the body of the uterus.

6. Until further comparative statistics based on the treatment of early cervical carcinomas are available, it is well, before we abandon surgery altogether, that we keep an open mind on this phase of the subject.

490 Post Street.

DISCUSSION

William H. Gilbert, M. D. (746 Francisco Street, Los Angeles).—Cancer of the cervix and cancer of the breast still remain debatable questions. Rapid metastasis in both these locations means a high percentage of recurrences and deaths. Unquestionably, cancer is a curable disease when discovered in its early stages. Surgery, the cautery, or radium will cure at that time. It seems to me that the best we can look for in the treatment of advanced cancer of the cervix is a 25 per cent cure. This is the figure supplied by Haydon of Stockholm, Sweden, and probably represents the highest percentage of cures of all types of cases and applies to the use of radium and x-ray radiation exclusively. Surgery has never been able to equal this record in the type of cases alluded to. In the surgical treatment of early cancer of the cervix the figures are in favor of operative procedure. After all has been said and done, we come back to the question of the personal equation. Much of the good results obtained through surgery depends upon the judgment and skill of the operating surgeon. This is equally true of the radiologist. He must have had a wide range of observation and experience in the use of radium and x-ray. I have used all the accepted methods. Percy's cautery, in early cases in which I resort to surgery, is my method of choice. I believe the radical hysterectomy made with the cautery knife is the best technique to follow. In more advanced cases I have cooked the cancer with the cautery and have seen the patients die of septicemia afterward. I have also seen the same result after large doses of radium. I believe the radium technique, as followed by Ward of the New York Woman's Hospital, has given me the best results. How to cure cancer is a tremendous question of great interest to the human race, and a gigantic problem for the medical profession to solve. Much water has run over the dam and much will follow before the question is answered to the satisfaction of both the public and the profession. At the present time I am inclined to believe that metastatic cancer patients will live longer and be more comfortable if let alone. When cancer becomes a general infection, any local treatment we may use will be of little avail.

Education of both the laity and profession as to the necessity of early diagnosis and treatment will do much toward decreasing the mortality rate of cancer.

To summarize, I would say that at this time an early diagnosis, a splendidly qualified surgeon, and an expert radiologist are absolutely necessary to the cure of cancer.

Emil G. Beck, M. D. (Chicago, Illinois).—Doctor Von Geldern has given us an unbiased opinion on the relative value of surgery and radiotherapy in the treatment of carcinoma of the cervix, and has clearly defined the indications for each, or of a combination of the same. Whenever a discussion on carcinoma of the cervix takes place, our main object is to find out whether surgery or radiotherapy offers the best chance for permanent cure or the longest period of prolongation of life. Statistics from American clinics and from abroad indicate that the status is still in favor of surgery combined with preoperative and postoperative radiation.

Radiation without surgery in cervical carcinoma has, however, gradually gained in popularity, as the surgeons become convinced of its merits. It has one thing in its favor, namely, practically no mortality, and less expense to the patient.

The comparative value of surgery or radio therapy cannot be estimated by merely counting the deaths or by the five-year end results. We must take into account that the worst cases fall into the hands of the radiologist. Many cases in which merely an exploration is done and regarded as inoperable apply to the radiologist and thus the fatal end results is charged to radiology and not to surgery.

It is, however, most essential that the surgeon and the radiologist coöperate in order to give the patient

the best chance for recovery. If I were asked to mention the most essential requirements in cancer therapy I would unhesitatingly say, coöperation between surgeon and radiologist.

In cancer of the cervix we should really expect more favorable results than in other parts of the body. It is in the earlier stages accessible to direct radiation similar to the superficial epitheliomata of the skin or lip. It is only when the body of the uterus and the intrapelvic glands are affected that the case becomes uncontrollable. We must bear in mind that unless we can destroy the last cancer cell we may expect a recurrence. In other words, every retained cancer cell after an operation is a potential recurrent cancer. Since the individual cancer cell is not palpable or visible during an operation, the surgeon is not always able to tell whether any cells have been retained in the wound and thus it is essential that postoperative radiotherapy should be carried out most efficiently. Fortunately this can be carried out with greater ease in carcinoma of the cervix because the tube of radium may be placed in direct contact and into the cavity of the uterus. The additional x-ray treatment has also been efficiently worked out by experts.

One word about the correct and early diagnosis. Not every ulceration of the cervix in a woman who has borne children and who is suffering from an endocervicitis, is a carcinoma. In suspicious looking ulcers we resort to biopsy. In the smooth granulated ulcer I have usually resorted to a test by treating them with 20 per cent silver nitrate and bismuth application. The nonmalignant ulcer will usually yield to this treatment, but if it does not, then it becomes a suspicious case, and the biopsy clears the diagnosis.

*

C. G. Toland, M. D. (1930 Wilshire Boulevard, Los Angeles).—In a consideration of the treatment of carcinoma of the cervix it is impossible to state definitely that any one procedure is the best. Some of our leading gynecologists favor the use of radium alone, others frequently employ a radical operation, many advocate irradiation and operation combined, and a few use the cautery. Where there is such a diversity of opinion it can be assumed that no treatment is entirely satisfactory.

If the surgeon could be reasonably certain in the early cancers of the cervix, that the malignant cells had not extended into the parametrium; and that no general or local contraindications existed to an operation; then a radical operation would be the method of choice.

Unfortunately the number of patients with an early cervical carcinoma who present themselves for examination is extremely small. The onset of the disease is insidious and in the early stages the symptoms are not sufficiently striking to force the patient to submit to a rather indelicate examination.

Where the malignancy has extended beyond the cervix, an operation has very little to offer the patient. There is considerable danger of disseminating the cancer cells as a result of the operative trauma, and even in skilled hands there is some immediate mortality.

The combination of surgery and irradiation undoubtedly has produced excellent results, but there is some question as to whether the same results could not have been obtained with radiation alone.

In our own work the results from surgery have seemed so uniformly unsatisfactory that we have abandoned operative procedure entirely. For the past eight years all cases, whether early or late, have been treated by the radiologist exclusively. The combination of x-ray and radium has been employed, and even in the advanced cases rather surprisingly good results have been obtained, with the additional feature of practically no mortality.

In this field, as in operative technique, a high degree of skill and experience is necessary. Troublesome abscess formation, a prolonged proctitis, or other undesirable complications may follow too enthusiastic irradiation.

When the carcinoma has confined itself to the fundus of the uterus we have not found radium so effective. A radical operation has given the patient the best chance for a cure. The abdominal total hysterectomy has been the safest and most satisfactory.

THE LURE OF MEDICAL HISTORY

A NOTE ON THE MEDICAL BOOKS OF FAMOUS PRINTERS*

PART I

By Chauncey D. Leake, Ph. D.
San Francisco

GOOD printing has always exercised its own peculiar fascination on those who love the beautiful, and with recent historical and artistic interest in the subject, as evidenced by the enthusiasm for finely printed private press work, it has become dignified to a fine art. It is one of the delightful sidelights of the historical study of medicine to follow along the developments in the art of printing. Almost all phases of the history of printing as a fine art may be traced in medical books.

THE ORIGIN OF PRINTING

In ancient Greek and Roman times, and all through the Middle Ages, books were painfully and slowly copied out by hand by professional scribes. Naturally this was a poor process, and very expensive. Only the very rich could afford books made by such a method and, of course, there was great restriction in the distribution of such as were copied. The manuscripts were usually richly bound and carefully preserved, for they represented wealth in view of their difficulty of production. In many libraries of the period these manuscript books were tightly chained to reading stalls and indeed this same practice continued in some cases after the publication of printed books.

It has always been supposed that the Chinese invented the device of movable type by which repeated impressions of the same figure might be made. It can only be proved that they used seals for stamping in quite the same way that the Romans and many other peoples used similar stamps. It remained for western ingenuity actually to invent printing.

The first printing effort to be successful was that initiated by Johan Gutenberg of Mainz in Germany. Here, after great labor in cutting the wood blocks to imitate as closely as possible the hand-made letters of the manuscripts, he published with Johan Fust, the first printed book, a great folio bible, between the years 1450 and 1455. The method of producing this book was kept secret. It was hoped that people would simply believe that the book had been put out in large numbers by the employment of a great many

* This preliminary study was inspired by the notable collection of medical classics exhibited by Dr. LeRoy Crummer at the University of California Medical School in February, 1929. Helpful stimulus has also been received from conversations with Dr. Sanford Larkey. It is hoped that their influence may maintain a lively interest in some of the more artistic aspects of medical publication among California physicians.

Fig. 1.—Illuminated page from manuscript of Juan Gil of Zamora, *Opus contra Venena,* written in Spain about 1400. Early printed books attempted to imitate manuscript work such as this.

scribes, and that the printing would appear to be real hand copying. All the early printed books attempted to imitate as far as possible the features of hand copying.

Along about 1465 Mainz was sacked by invaders in the sporadic warfare of the period and the printers were scattered over Europe. Even before this, however, Gutenberg and Fust had quarreled and had separated. Many of the better printers were attracted by the artistic patronage and appreciation of handicraft in Italy so that the best early printing developed from the presses in Florence and Venice.

Soon now a great flood of books were offered to the public, and at prices cheaper by far than could ever have been made by hand lettering. Education of the masses began in full blast. Naturally the wealthy aristocrats objected, and at first many obstacles were placed in the way of the printers. Permission had to be obtained for printing, and all sorts of difficulties were brought up. The wealthy continued for a time to have their books hand-lettered and bound as sumptuously and as richly as could be.

THE FIRST MEDICAL BOOKS

Medical manuscripts, of course, were among the most precious of those handed down and copied through the ages. Most of them are now in the great European libraries, and their comparison is one of the hardest tasks of the scholars. With the introduction of printing, hand sheets calling attention to certain ways of maintaining health in plagues or epidemics were circulated during the seventh decade of the fifteenth century. Not counting the works of Pliny and Aristotle, which were early printed, one of the first medical books was a little tract on poisons written by Peter of Abano, and published for the use of the medical students at Padua in 1473. But the first real medical book of any consequence to be published was the magnificent folio of Aulus Cornelius Celsus, *De medicine libri octo,* 1478. This was issued from the press of Nicolus Jensen of Florence, in Italy, and became famous as one of the first books to introduce the new Roman letter. As was said before, the first books attempted to imitate as closely as possible the rather thick, heavy hand lettering of the scribes. Books which continued to use this heavy sort of type are now said to be printed in **black letter.** The type was usually what we refer to commonly as "Old English." The plain slender grace of the ancient Roman lettering carved on the monuments and inscriptions all over the Roman Empire was not adopted into book printing until the time of Nicolus Jensen. Jensen's Roman type has become very famous, and within recent years some of the leading typographers, such as Bruce Rogers, have come back to the use of modified Jensen type.

This book of Celsus is one of the real classics of medicine. Celsus was a Roman gentleman who apparently lived during the Augustan era, and who wrote a number of books on various aspects of the classical Roman civilization. He was what might be called the first encyclopedist. His book on medicine was not popular at the time it was written, but with the advent of printing became one of the chief medical authorities, and went through some one hundred and five editions, and is still widely read for its classical charm and its good common sense. It was the chief medical work written in Latin. Most of the other authorities appeared in Greek, and one of the tasks of the Renaissance scholars was to get a good Greek manuscript and make a readable Latin translation from it.

THE INCUNABULA

An interesting arbitrary convention among bibliographers assigns special value to any book printed before 1500. Such a book is called an *incunable,* or "cradle book," and most careful pedigrees have been worked up for all such books. For example, an exact census is kept of all such books which may have found their way into the United States.

The leading authorities on incunabula were Hain and Copinger, who tried to make a complete check list with accurate descriptions of all the incunabula. Booksellers and bibliophiles use such a check list to "collate" copies they have. Sir William Osler made a similar check list for medical incunabula up to 1480. He lists some one hundred and seventy medical books printed up to that time. The chief ones are Aristotle, Avicenna,

Fig. 2.—First page of Johanis de Jaduno, *Tres libros de anima Aristotelis*, published in Venice, July 1, 1480, by Johanis Colonie. Note how type and illumination imitates manuscripts of period.

Dondis, Celsus, Dioscorides, and Pliny. It is remarkable that the real Renaissance authorities in medicine, Galen and Hippocrates, were not printed until after this time.

Check lists of medical incunabula in leading American medical libraries have been published from time to time in *The Annals of Medical History*. The chief collections of medical incunabula in this country are in the Surgeon-General's Library and in the College of Physicians in Philadelphia. Sir William Osler's collection is with his historical books at McGill. In the recently issued *Bibliotheca Osleriana* there is a full description not only of Osler's incunabula, but also of all the finely printed books in his great collection.

THE FIRST ILLUSTRATED MEDICAL BOOK

In 1493 there appeared in Venice a huge folio volume called *Fasciculus Medicinae,* which purported to be a collection of little medical works assembled by a certain Johannes de Ketham. It included the anatomical notes of Mundinus, a celebrated Bolognese professor, the first to revive formal dissection, and a tract or two by Rhazes, the great Arabian physician. This book at once became popular, and in 1500 and later in 1513, was republished in most magnificent form. The publisher was the celebrated Gregorius de Gregoris, one of the best of the early Venetian printers, and his fame was muchly enhanced by this beautiful book. It has been called the finest illustrated book up to the time, and it was the first illustrated medical book.

The illustrations are very clear, simple, architectural line-drawings, which have been transferred to wood with consummate skill. The "statuesque ease" of the figures, and the firm, simple outlines of the settings, have won for these pictures the admiration of all artists.

There are in all ten cuts in the book. There are the traditional "wound men" and "bleeding men," and also the traditional circle of urine glasses. These pictures, in crude form, had been circulated for some time as separate sheets, and showed the places on a man where he might be bled, and the colors of the different types of pathological urines, or the kinds of wounds a man might receive. But the best of the pictures are those of the professor in his chair, supposed to be Petrus de Montagna, reading to his students from some authority, while his prosector points out on a cadaver below the parts of the body exposed by the menial barber. The other is the very beautiful sickroom scene, in which an elderly woman is shown reclining on a high bed while one servant smoothes the sheets and another brings food. Below are two pages holding incense tapers, for the patient has plague, while a physician feels the pulse of the sick woman, meanwhile holding an aromatic sponge to his nose to keep away the infection. This picture is reproduced for this article.

Gregorius really fostered illustrated medical books. He used some of his cuts for several different books. For instance, in 1502, he issued a collection of some of the supposed medical books from the famous school of Salerno, under the name of Articella, or Johannitius, and called *Liber Ysagoguc*. This carried a cruder picture of the "bleeding man," and is here reproduced in order to illustrate the kind of picture this famous representation was. The various points on the

Fig. 3.—Sick room scene from Ketham's *Fasciculus Medicinae*, Gregorius, Venice, 1500, the finest illustrated book to that date.

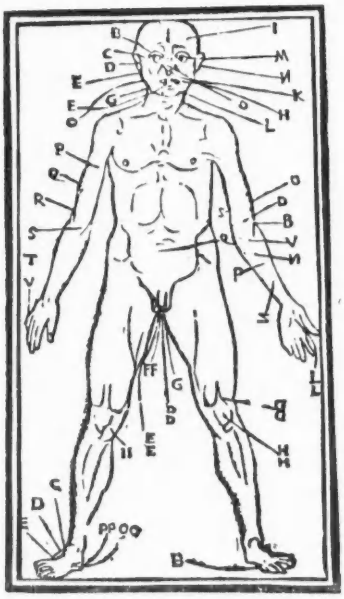


Fig. 4.—"Bleeding man," from Articella, *Liber Ysagogue*, Venice, 1502.

body show the places from which blood may be drawn.

THE ALDINE PRESS

The original printers did not use a title page. To have done so would have spoiled the illusion of the work having been hand-lettered like a regular manuscript. The custom developed of putting a little note, called a *colophon*, at the end of the printing, telling by whom the work was done, where, and when. Later the printers began to use a distinctive mark, or printer's device, with which to identify the books made by them. One of the first of these famous devices was the anchor and dolphin of the great house of Aldus Manutius, the founder of a family of celebrated Venetian printers. He was also among the first to use a title page. This was a very simply printed front page telling what the volume contained and also carrying the device as an identification.

But the Aldine Press is chiefly renowned for its introduction of *italic* type fonts. The older type fonts were based on the hand-lettering of the scribes or upon the carvings of the ancient Roman stonecutters. The beautiful *italic* style is said to have originated from an attempt on the part of the Aldine Press to imitate in type the delicate handwriting of Petrarch, the great Renaissance humanist and author.

Among the famous Aldine medical books is an early edition of Celsus, printed in 1528, entirely in *italics*. This is one of the first medical books to have a title page. With the clarity and brilliance of its type, and the fine quality of the paper used, it is indeed a book well worth cherishing.

Another famous book from the Aldine Press is the first Greek edition of Hippocrates. This appeared in 1526, and contained all the supposed works of Hippocrates in the original Greek. The character of the Greek type used became famed as the prototype of similar fonts employed by later printers.

The Aldine Press achieved great renown through its publication in magnificent format of the chief classical writers of antiquity. The publication of these books not only was a commercial success, but it also contributed in a marked degree to an appreciation on the part of the people at large of the finer literary remains of the ancients.

GREAT FRENCH PRINTERS

Printing did not make a good start in Paris; the city was too much under the control of the conservative aristocrats. In Lyons, however, nearer the artistic centers of Italy, fine printing early flourished.

Most of the early sixteenth century books of Lyons, however, were still printed in black letter. The newer fonts were slow to be introduced. Among the prized early medical books from Lyons are various works of Symphorien Champier, 1472-1539, the great French humanist who did so much to give the real meaning of Galen and Hippocrates, and who, using his name as a clue, perhaps, tried to harmonize, or produce a symphony from the conflicting ideas of Galen, Hippocrates, Aristotle, and the Arabs. This work was the octavo *De medicinis claris scriptoris*, issued by Etienne Gueynard, in 1506.

Gilbert de Villiers was another important Lyons printer, who issued the beautiful second edition of Dioscorides as a quarto in 1512. This carried one of the best sixteenth century woodcuts on the title page, a variant of the familiar scene of an author presenting his book to his patron. Another important work published by Villiers was the *Opera Parva* of Rhazes in 1511. This again was in the convenient octavo size.

The earlier printers published their books in the regular large folio size of the ordinary manu-

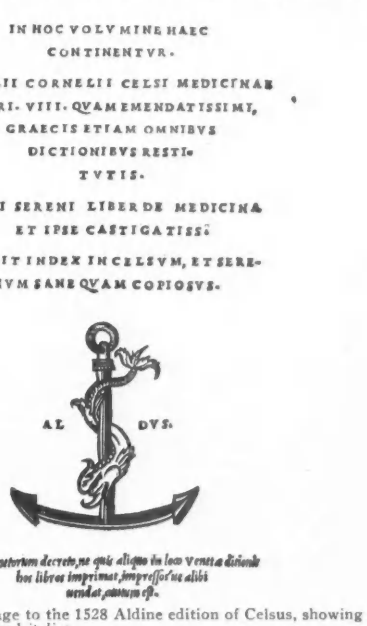


Fig. 5.—Title page to the 1528 Aldine edition of Celsus, showing the Aldine device and *italics*.

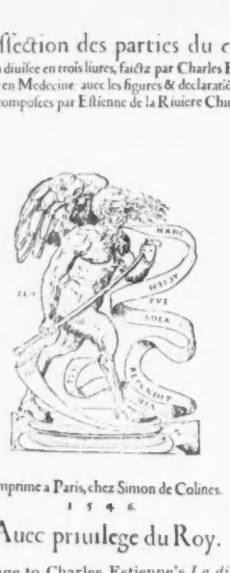

La diſſection des parties du corps
humain diuiſee en trois liures, faictz par Charles Eſtienne
docteur en Medecine auec les figures & declaratiõ des in
cilions,compoſees par Eſtienne de la Riuiere Chirurgien.
Imprime a Paris, chez Simon de Colines.
1546.
Auec priuilege du Roy.

Fig. 6.—Title page to Charles Estienne's *La dissection des parties du corps*, published by Simon de Colines in Paris, in 1546.

scripts. It was the Lyons printers who popularized the more convenient smaller sizes. Books are usually classified by size according to the number of times the printed sheets are folded in binding. Just folded once they are "in folio." Folded to give four pages, they are "in quarto"; to give eight pages they are "in octavo," and so on.

The most famous Lyons printer was Gryphius, who appropriately enough used a griffin as his device. In 1532 he published in 12mo one of the first authoritative Latin translations of the Greek of Galen and Hippocrates, made by the great Francois Rabelais, author of the first novels, *Gargantua* and *Pantagruel*. Rabelais lectured for many years on medicine, and is even supposed to have written his witty novels in the attempt to make his sick patients laugh and thus the more easily get well.

In these handy little formats most of the ancient medical authorities were issued from the busy press of another more strictly medical printer in Lyons. This was Rovillius, whose device may be seen on many of the early Renaissance medical texts. He put his books out especially for the use of students—that is, in a handy form, and at a little more reasonable price than that charged for the more magnificent tomes of other printers.

With Simon Colines, Paris came into its own in the fine art of printing. The bootlegging of Lyons books into the capital made it apparent that there was real demand for good books, and Colines secured the ecclesiastical permission to do his best. He issued many texts of Galen, with translations made by the best literary men of the time, among them Thomas Linacre, who founded the Royal College of Physicians of London, and Guinter of Andernach, one of the teachers of Vesalius. He also issued in 1537 one of the rare little medical tracts of Michael Servetus, who discovered the pulmonary circulation, and who was burned under Calvin at Geneva in 1553 for his theological ideas. One of Colines' most ambitious medical books was the *De dissectione partium corporis humanis* of Carolus Stephanus, or Estienne (1506-1564), who was himself a member of a great family of Parisian printers, and who antedated Vesalius in trying to make a real study of the human anatomy. Unfortunately this fine folio did not have the same artistic plates that made Vesalius' work so successful, and it was not published until two years after the appearance of Vesalius' book.

The Stephanus family, Robert, Charles, and Henri, published several fine medical works. The first folio of Alexander of Trales, in Greek text, came from their press in 1548. Henri himself wrote and printed one of the first and handiest medical dictionaries, the *Dictionarium medicum* in octavo in 1564.

University of California Medical School.

(Part II of this paper will be printed in the February issue.)

Note: Pictures of the title pages of many of the books mentioned above may be seen in Sir William Osler's *Evolution of Modern Medicine*, New Haven, 1920. In the huge catalogue of his library, compiled by W. W. Francis, Archibald Malloch, and L. L. Mackall (*Bibliotheca Osleriana*), one may find interesting notes on many of the significant finely printed medical books. One may also turn to the many beautiful catalogues issued by Maggs Bros. of London, R. Lier of Florence, and Hertzberger of Amsterdam, for items about the medical books of the famous presses of the world.

CLINICAL NOTES AND CASE REPORTS

EXTENSIVE FRACTURE OF SKULL*

REPORT OF CASE

By S. Nicholas Jacobs, M. D.
AND
Lawrence M. Trauner, M. D.
San Francisco

THE following case is interesting from the standpoint of the great amount of damage sustained by the skull, yet resulting in complete recovery of the patient.

F. L., male, white, age twenty-two, on February 12 was thrown to the street from a motorcycle, striking his head against the curbing. He was rendered unconscious for about five minutes, after which he was semistuporous. Upon removal to the Sutter Hos-

* From the Sutter Hospital, San Francisco.

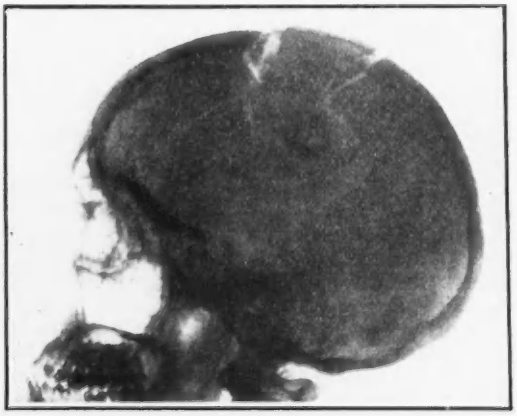


Fig. 1.—Lateral View

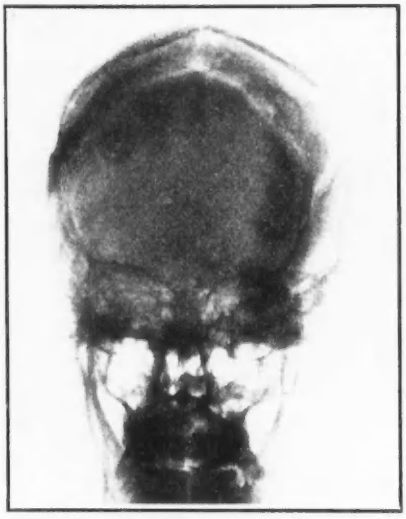


Fig. 2.—Posteroanterior View

pital it was noted that there were multiple lacerations about the scalp and face with evidence of considerable hemorrhage. There was no bleeding nor escape of cerebrospinal fluid from the ears, nose or mouth. Respiration was regular and quiet, 18 per minute; pulse regular, 80 per minute; blood pressure, 120/80. There was no motor disturbance of the face or limbs. Deep and superficial reflexes were all present and normally active. Pupils were equal, regular, and reacted to light. There was some vomiting, but not of the projectile type.

Three to four hours later some symptoms of acute intracranial pressure developed: the blood pressure showed a marked fluctuation ranging from 90 to 130 systolic and 10 to 68 diastolic, with a consequent variation of the pulse pressure; the pulse and respiration became slower, but remained regular. This condition lasted five days, after which the symptoms subsided, the blood pressure, pulse, and respiration remaining at constant levels. Temperature was subnormal upon admission and normal thereafter.

X-ray pictures taken upon admission showed (Figs. 1 and 2) a very extensive comminuted fracture involving both parietal bones. On the right side a fragment had been depressed into the cranial cavity. There was also a depression of the upper fragment of the parietal on the left side. There was a marked diastasis of the coronal suture and of the sagittal suture anteriorly. This diastasis no doubt accounted for the symptoms subsiding after the immediate effects of shock: the patient had decompressed himself.

The patient's general condition improved steadily under absolute bed rest and sedatives. At this time the question arose as to the advisability of surgical intervention, it being felt that the depressed piece of bone would irritate the cerebral cortex. However, due to the extreme shock sustained, it was deemed advisable to wait one month before removal was attempted. This was concurred in by Dr. H. Naffziger, who saw him in consultation with us. The patient improved steadily during this interval of time and operation was then performed. The fracture and overlapping bone were exposed through an inverted U-shaped skin flap. After removing the overlapping portions of bone, the dura was found to be intact but markedly thickened and congested. X-ray pictures were taken four days after the operation (Fig. 3).

Recovery was uneventful and the patient was allowed to leave the hospital on the fourteenth day after operation. The trephined area in the right parietal region was protected externally by an aluminum plate. He did not complain of any headache or dizziness and was mentally alert. He has continued to improve up to the present time, seven months after the accident, and no signs of cerebral irritation have developed. The trephined area has filled in to within a space one centimeter in diameter.

1065 Sutter Street.

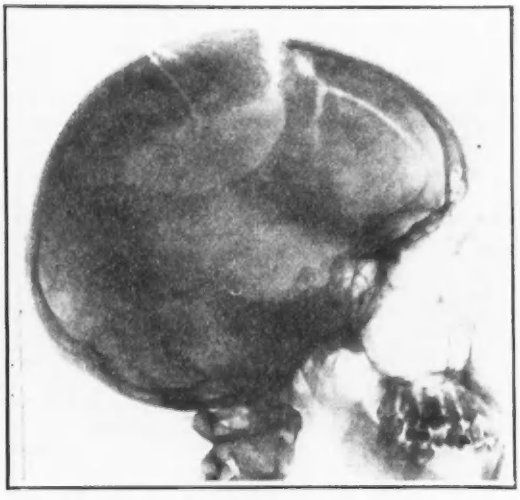


Fig. 3.—Showing a large ovoid defect in the right parietal bone where the comminuted and overlapping fragment had been removed.

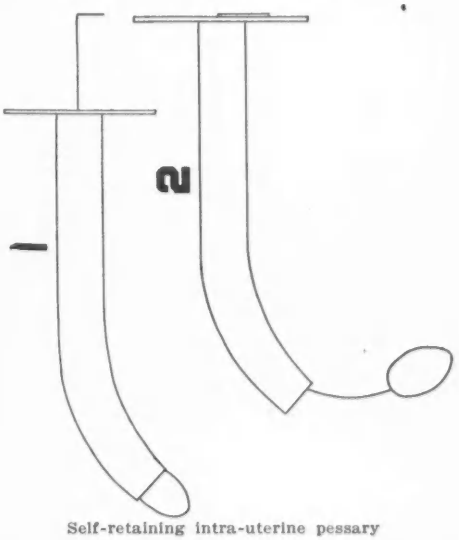
SELF-RETAINING INTRA-UTERINE PESSARY

REPORT OF CASE

By OLGA MCNEILE, M. D.
Los Angeles

AFTER eighteen years' experience with different forms of self-retaining pessaries, it has finally been my privilege to find one that is nearly perfect.

The glass stems used in the past were satisfactory except for the danger of breaking (I have removed several broken ones). The aluminum, gold, and silver ones caused a cervical irritation



Self-retaining intra-uterine pessary

in a very short time, and had to be introduced with the use of capsule which contaminated them. All the old types were made in a limited number of sizes which often were not adapted to the individual anatomical structure.

I mentioned my problem to a friend of mine, Mr. J. J. Cantor, a designer of medical appliances, who thereupon devised a pessary which I have used during the past six months. Indications for its use were dysmenorrhea, with or without an anteflexion, and sterility. This pessary can be introduced when the patient is in the office. Slight dilatation may be necessary. The pessary can be altered to various lengths to suit individual requirements.

The pessary holds itself well in position and does not cause any irritation or odor, even after being worn for six months. After the usual dilatation under an anesthetic, the cervical muscle tissue is torn, often causing a secondary contraction. By wearing this type of pessary, from one to six months, the cervical canal becomes permanently dilated.

REPORT OF CASE

Mrs. X.—Introduced pessary after usual dilatation. She had borne two children. Operation for cervical repair followed. This repair had a contracted cervical canal so the ordinary uterine sound would not pass; and also had caused severe premenstrual dysmenorrhea and sterility. Pessary was easily removed after having been worn for six months. At no time did it cause erosion of the cervix or any leukorrhea. Six months have passed since its removal, the dysmenorrhea no longer exists, and the cervical canal is of normal diameter.

2007 Wilshire Boulevard.

SURGICAL CATASTROPHES FOLLOWING OVERLOOKED STONE

REPORT OF CASE

By STANLEY H. MENTZER, M. D.
San Francisco

D-65787, white, male, age forty-one, garage mechanic.

Family History and Past History.—Unessential.

Present Illness.—Patient had been perfectly well until one year ago when, after no previous indigestion or other suggestive signs of biliary disease, he suddenly developed an attack of severe pain in the right upper quadrant which radiated posteriorly; some nausea but no vomiting, no jaundice, no clay-colored stools. Since that time he had had characteristic gall-bladder distress with true qualitative food intolerance; flatulence and belching thirty to sixty minutes after meals. No chills or fever.

Operation (Elsewhere).—Under ether anesthesia, a relatively noninflammatory gall bladder containing two cholesterin-rich stones was found. During the cholecystectomy the gall bladder was ruptured. Some bile-oozing occurred. The abdomen was closed with a Penrose drain.

Interval History.—Patient was practically well for one year except for slight jaundice, which was intermittent. There was no severe pain, no chills or fever, until the second attack of distress one year after the first operation. Then rather suddenly the patient developed severe pain in the upper abdomen with deep jaundice, chills, fever, and clay-colored stools. A diagnosis of common duct stone was made and at operation I found a stone in an anomalous cystic duct which ran parallel to the common duct for most of its length and drained into it close to the ampulla of Vater. Signs and symptoms of acute duct obstruction were, therefore, due to the extraneous mass, *i. e.*, the stone within the cystic duct pressing on the common duct. The stone was removed and a catheter sutured into the cystic duct for drainage. The common duct was open and thoroughly explored, and no stones were found.

Postoperative Course.—Patient drained bile freely and had an uneventful convalescence until the fourteenth day, when he got up out of bed. He had been walking about the ward approximately half a day and felt reasonably well, when he suddenly fell over in a faint which, he stated later, had been induced by severe upper abdominal pain. He rapidly went into shock, and four hours later I performed an exploratory operation. Preoperative diagnosis of bile peritonitis or mesentery thrombosis was made. The abdomen, however, was filled with serosanguinous fluid, four quarts of which were removed. Small areas of fat necrosis were observed in the omentum and transverse mesocolon and the diagnosis of acute hemorrhagic pancreatitis was obvious. Literally fistfuls of pancreatic tissue were scooped from the tail and body of the pancreas. Abundant Penrose and gauze drainage was effected from the sloughing area about the pancreas through the transverse mesocolon and anterior abdominal wall.

Patient had a stormy convalescence characterized essentially by vomiting and by digestion of the abdominal wall, due to pancreatic juice. This was controlled more or less by Fuller's earth dressings and later by beef juice and hydrochloric acid dressings.

Three weeks later a secondary closure of abdominal wall had to be performed. Patient was discharged from hospital three months after the second operation. There was still slight drainage through the abdominal wall. A month later drainage had stopped and patient was practically well—as he has remained twelve months after his discharge from the hospital. There are no signs of pancreatic insufficiency.

Note.—The case is of unusual interest because of: (1) The surgical catastrophes following overlooked stone; (2) Anomalous course of cystic duct; (3) Development of acute hemorrhagic pancreatitis; and (4) Recovery from this lesion after early surgical intervention.

450 Sutter Street.

Mme. Curie Here for Second Gift of Radium.—America has been recently hostess to the greatest woman scientist the world has ever known. Mme. Marie Curie, co-discoverer of radium, has come to accept a second gift of a gram of the precious substance from her friends and admirers in this country. When the first gram was presented to her in 1921, she turned it over to the Curie Institute of the University of Paris. The second gram will be given to the Warsaw Cancer Hospital, which since 1921 has rented a gram, Mme. Curie herself paying the rental with the income of a money gift she received with the first gram of radium. Warsaw is Mme. Curie's native city, although she has worked and lived most of her life in Paris. Mme Curie and her husband, Pierre Curie, discovered radium but refused to make any personal profit from their discovery. They gave it to the public together with the methods they evolved for producing radium. These same methods are in use today in the radium industry. For years these great and generous scientists struggled with a meager income and without even an adequate laboratory. Pierre Curie, struck by a truck, died in 1906 without ever having a proper laboratory in which to use his great talents. Mme. Curie finally acquired the laboratory, planned too late for her husband to enjoy, in the Curie Institute. However, the small supply of radium in her laboratory was needed by the government during the war, and after the armistice she found herself without any of the precious substance. Then her admirers and friends in America came to the rescue with the gram of radium and the money which was meant to make living conditions easier for her. Characteristically, she used it to rent radium for the Warsaw Cancer Hospital.—*Science Service.*

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An open forum for brief discussions of the workaday problems of the bedside doctor. Suggestions for subjects for discussion invited.

THE CAUSES OF ANGINA PECTORIS

ROBERT WILLIAM LANGLEY, LOS ANGELES.—We are still far from having an exact conception of the mystery of pain in angina pectoris. Assuming, with MacKenzie, that the pain is an expression of heart muscle fatigue or anemia, the causes then are those which produce degenerative changes in either the heart or blood vessels or both. A definite symptom complex arises on the basis of the above pathological changes, and this we call angina pectoris.

No doubt true angina may occasionally be found on the basis of spasm of the vessels at the base of the heart and theoretically upon the basis of a spasm of the coronary vessels, but on the whole, actual pathological changes tending toward the production of sclerosis in these vessels are to be found in the great majority of cases.

The time-worn expression "the wear and tear of life" while not conveying a great deal to the average layman must certainly be considered an important causative factor in angina pectoris. The stress of the busy commercial world, the tremendous pressure and worry to which so many individuals are subjected constantly, are very important causative factors. When these factors are combined with prolonged irritation, such as repeated bacterial or parasitic invasion, overindulgence in alcoholic stimulants, tobacco and other toxins, high blood pressure and its consequent degenerative changes, the true manifestations of angina pectoris are frequently found. The incidence of this affection is greater by far in individuals with highly organized nervous systems whose lives show achievements in fields of mental endeavor. Certain classes apparently are affected more than others. The occurrence among Jews is very common while rather uncommon in the negro, for instance.

MacKenzie, after analyzing hundreds of cases, divided them into five groups as follows:

1. People in advanced life, about fifty-five and over, in whom the changes in the arteries are leading to a deficient supply of blood in all the organs, and in whom the arterial changes are more advanced in the heart.

2. People in whom the arterial changes are proceeding in the heart with greater rapidity and the disease is not capable of being checked and a fatal issue speedily follows.

3. People with damaged valves, especially aortic regurgitation.

4. People whose hearts are embarrassed by having to labor against arterial destruction, as in chronic disease of the kidney with high blood pressure and damaged arteries.

5. A small indefinite group comprising rare conditions impossible to classify.

It will be seen from this classification that MacKenzie gave very little credit to acute cardiac irritants or toxins giving rise to true angina pectoris. It is quite true that he discussed a group of cases giving rise to atypical manifestations similar to angina pectoris which he chose to call pseudo-angina, truly an unfortunate term. Angina pectoris is a real entity, according to our present conception, and the pathology does not permit the recognition of this false type. Attacks of angina are frequently precipitated by taking food. This is especially true if the individual attempts physical effort shortly after taking a meal. It becomes necessary to insist upon this relation of food and effort to the pain of angina, for many patients, and even some doctors, consider the signs very certain evidences of indigestion.

* * *

JOSEPH M. KING, LOS ANGELES.—Much has been written and many speculations indulged in regarding the exact causation of that symptom complex called angina pectoris, and while the true pathology of any condition and its etiology are of the utmost importance, yet our chief concern as bedside practitioners is the correct diagnosis, prognosis, and treatment.

Several heart conditions give rise to anginal pain, and when a patient presents himself it is wise to differentiate these if possible, even when he has as symptoms only the classic triad of substernal or more rarely precordial pain, with radiation to various parts of the body but chiefly the left shoulder and arm, and a sense of impending death during the seizure. Syphilis of the aorta, weakening as it does the resistance of the vessel wall, presents a stretching which often gives rise to a true anginal symptom complex. In this connection it is well to remember that the Wassermann test is not always positive in syphilis of the blood vessels, and in suspicious cases not only should it be repeated but the history should be thoroughly considered and very careful x-ray studies made for possible widening of the vessel. In this way only can one avoid the unpleasant awakening a few years later to the fact that the pathology presented has led on to aneurysm, untreated.

It is well also to remember that the substernal pain may be very low or even absent, and that the radiation of the pain is variable. Due to epigastric

or abdominal distress angina has not infrequently been mistaken for acute gall-bladder disease, gastric ulcer, or even acute perforation from ulcer, renal colic, or acute appendicitis. But a careful consideration of the history, the absence of fever, the normal leukocyte count, the presence of respiratory difficulty, and the age of the patient will usually serve to rule out acute abdominal conditions. The diagnosis of "indigestion" when made on an elderly patient who has distress on exertion after a hearty meal should be looked on with grave suspicion. In fact, if pain in the chest is clearly related to exercise, especially if associated with a full stomach or mental emotion, it should be regarded as anginal unless proved otherwise.

While many emotional states may be accompanied with seeming distress, it is certainly misleading to term them "pseudo-angina" or "false angina." It is also a cloak for our lack of exact knowledge of the particular case, for, as Potain has said, "There are no false diseases; there are only false diagnoses." Many of the attacks termed pseudo-angina are in reality the early manifestations of a malady which will ultimately claim the patient's life. It must be remembered that angina may run a much longer course than was formerly supposed and that many patients suffering with angina have very mild attacks for years. We must also remember that severe anginal attacks, leading even to death, may not be accompanied by severe pain.

On the other hand, now that the laity has become so conversant with the symptoms of various diseases, many neurotic individuals present themselves with a history difficult to evaluate. A sufficient study of the patient, however, serves to show his emotionalism. If the physician is so fortunate as to be present during one or two of these attacks, which seldom give the impression of true pain, he will usually have no difficulty in ascribing these cases to psychic phenomena.

Finally we should not overlook the toxic anginas brought on by tobacco, and possibly occasionally by tea or coffee. These are very easy to determine. The giving up of the supposed deleterious substance is followed very promptly by a cessation of the attacks.

* * *

HARRY SPIRO, SAN FRANCISCO.—In a case of suspected angina pectoris the history is of the utmost importance. A patient may have physical signs, laboratory signs, and x-ray signs showing that an aortitis is present, that a degree of myocardial disease is present, or that hypertension or hypotension exists with no symptoms of pain. That patient has not angina pectoris. His prognosis is better than that of another patient with identical physical and laboratory findings who complains of pain in the region of the heart coincident with exercise and distinct relief by rest. This latter symptom is of utmost importance and almost pathognomonic of angina pectoris.

The points in the history that indicate a true angina are: first, pain with exercise, and second, relief of that particular pain by rest. I do not agree with the author who speaks of "angina pectoris without pain"; I know a patient may have a coronary artery thrombus and no pain.

Of more than ordinary importance is the character of the pulse during an attack of angina pectoris. Very often a physician is led to question the presence of an attack of angina pectoris because the patient has a moderately slow, fairly strong and perfectly regular heart beat during the attack of pain. He may have observed his patient between attacks of pain and noted that the pulse is practically the same as during the attacks of pain. This ordinarily is the rule. It is exceptional (to be noted later), to find a variation in the pulse during an attack. The above character of the pulse is not indicative of the mildness of the condition. A "good" pulse during attacks is not safe datum upon which to base either diagnosis or prognosis.

When, however, in an attack the pulse rate is very fast or the volume or size very small, or the volume very changeable, when the pulse seems to fade out and get stronger again under the fingers, the patient is in deadly peril and the probabilities are that this attack of angina pectoris has been caused by a fresh coronary artery thrombus. When during an attack the pulse becomes small in volume and remains so for days and then develops irregularity, even extrasystoles, death may be imminent. When following an apparent recovery from an attack of angina pectoris produced either by an irritable aorta, a spasm of the coronary, or coronary thrombus, the pulse remains rapid, the patient feels well and anxious to get up, he is still in danger and should not be permitted to get up until the pulse rate has lowered permanently to around eighty-four.

Pain in the heart region, not distinctly related to exercise or relieved by rest, but associated with palpitation coming on without apparent reason may be indicative of ventricular tachycardia. During an attack of ventricular tachycardia the type pulse is a very, very fast run of short or long duration, immediately followed by a slowing of rate and then an apparently rapid increase. At the apex beat, when a rapid ta-ta-ta is heard as fast as can be counted, an exact diagnosis is imperative, and an electrocardiogram should be made. Not infrequently a patient has attacks of pain in the region of the heart or under the sternum, unrelated to exercise or to excitement but to an attack of palpitation of very rapid heart action of which the patient is conscious. This may be merely an arrhythmia of some sort which if relieved may permanently cure the patient of attacks of so-called angina pectoris. This arrhythmia may be either extrasystoles, auricular or ventricular, in series, causing tachycardia or the above mentioned ventricular tachycardia, both of which conditions are frequently and brilliantly relieved by quinidin.

I believe there is a relationship between the degree of pain and the prognosis, that is, the greater the pain the more dangerously ill the

patient; the easier to produce pain the more dangerous; the length of time the pain lasts—the longer the duration of pain the more severe the case; the quicker the relief with drugs the less dangerous the case; and attacks of pain markedly increased in frequency call for extreme caution; however, some patients only have one or two attacks of pain and then death.

* * *

J. Marion Read, San Francisco.—If every patient with albuminuria had Bright's disease, if every one with a murmur had endocarditis, and if precordial pain radiating down the arm always meant angina pectoris, etc., the diagnostic problems of the internist would be greatly simplified.

While true angina pectoris describes a fairly definite clinical picture there are no characteristic physiologic or anatomic changes found ante- or postmortem. It is probably because of this fact that the term "angina pectoris" has been used to describe almost all precordial or substernal pain radiating down the left, or right arm, or both.

When used in this sense the term really represents a symptom complex rather than a clinical entity. But as bedside physicians, it is in this guise that diagnostic problems present themselves to us.

While the greatest number of disease states in which this sensory symptom complex occurs are cardiac, or circulatory, it may be found also in mediastinitis, herpes zoster or, perhaps more frequently, in the radicular syndrome.

Typical anginal pain may occur in paroxysmal tachycardia, or anemia (especially the pernicious form), and in hypothyroidism. In all of these the heart itself may be organically sound, but the seat of the pain is nevertheless in the heart. Typical anginal pain may occur also in aortic insufficiency. Anginal pain occurs in coronary artery disease, including thrombosis and in true angina pectoris. There may be some question as to whether or not the same pathologic changes underlie both diseases, but I refer to true angina pectoris to designate the clinical picture described by William Heberden, who chose the term "angina" because of the sensation of pressure or constriction which is such a prominent symptom of this condition, and which the term really means. Heberden wrote, "The seat of it and the sense of strangling, and anxiety with which it is attended, may make it not improperly to be called angina pectoris."

But by long usage the term "angina" has come to be translated *pain*, rather than *suffocation*, and there are described under the heading of angina pectoris almost every cardiac affection associated with pain. For purposes of prognosis, treatment and further study of cardiac disease characterized by pain, it seems logical to restrict the term "angina pectoris" to the small group of cases which so clearly fit the description given by Heberden, namely, those whose attacks are produced nearly always by exertion, are accompanied by an alarming sensation of suffocation, pain, and impending death, in whom the attack ceases with absolute immobility and who usually die suddenly.

It seems probable that the pain which occurs in true cardiac affections (excluding pericarditis and aortitis) is in the great majority of cases due to anoxemia of the heart muscle, either relative or absolute. Disease of the coronary arteries, anemia, and hypotension, all predispose to myocardial anoxemia and all these may, singly or in combination, be factors in precipitating attacks of angina pectoris.

Despite the same age incidence and the frequent necropsy finding of coronary artery changes, there is an additional nervous factor which plays a prominent part in angina pectoris. Brain workers, those with highly organized nervous systems, the "high strung," nervous, emotional and mentally active individuals seem predisposed to this dread disease. It occurs in almost epidemic form following financial crises, earthquakes, wars, and other calamitous happenings. It is much more frequently encountered in private practice than in clinics or hospitals for the poor. The same cannot be said of coronary thrombosis, which seems to strike rich and poor alike. Incidentally, the latter disease may occur without pain, although the accompanying objective signs are numerous, while in angina pectoris these are usually few, if any, while the subjective manifestations take first rank among those of all other diseases.

In the last twenty years the work of Herrick and others has established coronary thrombosis as a clinical entity and its subjective, as well as objective, manifestations are usually distinguishable from true angina pectoris. I cannot, therefore, agree with the previous writer when he says that an "attack of angina pectoris has been caused by a fresh coronary artery thrombosis."

The action of nitrites in angina pectoris and the seemingly favorable results which have attended cervical sympathectomy in some cases are features which warrant further consideration and tend to distinguish this disease from coronary thrombosis.

* * *

William Dock, San Francisco.—The occurrence of substernal (usually not submammary) distress, on effort, excitement, or exposure to cold, which is relieved by rest (often in the erect posture) or by nitrites, is sufficient for a "working diagnosis" of angina. If the pain occurs more after meals, on ascent but not on the level, and radiates into arms or upper abdomen, the impression is strengthened. Absence of all physical evidence, by x-ray, electrocardiogram, blood pressure, and physical examination does not alter the diagnosis. The pain may be partly abdominal and accompanied by nausea, but the relation to effort is typical and of the greatest importance.

Similar pain, of longer duration, and even occurring at rest may be due to paroxysmal tachycardia, thyroid disease, profound anemia, aortic stenosis or insufficiency, or to occlusion of a coronary artery, and should be sharply differentiated from pure angina pectoris.

The prognosis varies with frequency, severity, and duration of disease. The longer the disease

has lasted without increase in severity the better the prognosis, and the greatest care should be given to those who have had only a few attacks. Very severe attacks may recur for many years and hence no absolute prognosis can be given. Certain physical findings: pulsus alternans (as noted in taking systolic pressure); gallop rhythm on exercise; hypertension increased during attacks; abnormal ventricular complexes in the electrocardiogram, all suggest a shorter course. There is no marked correlation between senile sclerosis of the aorta, which Doctor Spiro includes in the x-ray diagnosis of "aortitis" and severity of heart disease. Anatomically the root of the aorta and coronaries may be severely damaged, even by syphilis, with no change in the arch, and severe sclerosis of arch and descending aorta occur often with the root of the aorta and coronaries undamaged.

As to therapy, rest (especially after meals), moderation in eating, drinking, and exercise are of greatest importance. The most useful drug is nitroglycerin, to be taken under the tongue for attacks of pain, or on occasions such as stair-climbing, sexual intercourse, etc., which predispose to attacks. Theobromin in ten-grain dose three times a day for prevention of attacks occasionally gives a satisfactory result; theocin and euphyllin but rarely succeed when this fails, but should be tried. Superior cervical sympathectomy is often effective and is less dangerous than other types of operative treatment.

Blindfolded Pilots Fly Spiral Courses.—Experiments conducted have demonstrated that, when blindfolded, an airplane pilot will nearly invariably show the same tendency to deviate from the straight path of flight and take up a spiral one, that a blindfolded person does when in motion on the ground, it was stated September 7 by the National Advisory Committee on Aeronautics.

The statement in full text follows:

Tradition says that the normal tendency of a man who is walking without visual reference, as when lost in a forest or in a dense fog, is to take a circular path.

This traditional tendency has been investigated experimentally and reported upon exhaustively by Dr. Asa A. Schaeffer of the zoological laboratory of the University of Kansas. He finds that, whether walking, swimming, rowing a boat, or driving an automobile, the tendency of a blindfolded person is always to follow a spiral path.

Such a tendency would naturally be of greater importance in flight than perhaps anywhere else, and it was the intention of these experiments, carried on by the National Advisory Committee for Aeronautics at Langley Field, Virginia, to determine whether the same tendency normally appeared in the piloting of aircraft.

For the purpose of these experiments, a dual control VE-7 airplane was used. The subject pilot was placed in the front seat, which was located approximately at the center of gravity of the airplane. In this position the subject pilot was less influenced in piloting by the accelerations. A safety pilot, who also served as observer, occupied the rear seat.

A face-mask type of goggles, in which the glasses were replaced by light-tight pieces of cardboard and black paint, was used as a very effective blindfold.

The subject was usually directed to take off and fly to some safe altitude at which steady air conditions existed, in the meantime getting accustomed to the flying qualities of the airplane. At this point the observer took over the controls, and the subject pilot assumed the "blind condition" but putting on the goggles.

The airplane was then brought into position for straightway flight by the observer and turned over to the subject pilot, who then attempted to maintain straight flight.

It was found, without exception, that no subject pilot maintained a straight flight path for any appreciable time, but soon brought the airplane into a properly banked turn, which was maintained for varying periods. This circling flight, after a few turns, frequently assumed a shorter radius with a consequent greater bank, terminating in the nose dropping well down into a diving spiral.

At this point the safety pilot reassumed the control and placed the airplane again in straight flight or in a wide turn to the left or right, and the subject pilot then attempted to attain and maintain straight flight, as previously explained. There appeared little difference in the results, whether they started in straight flight or in a turn.

A continuous record was kept during the intervals of flight made by the subject pilot. By assuming a zero starting point at the beginning of each flight, it was possible to follow the course of the airplane, including at the same time information in regard to the degree of bank, air speed, and any unusual maneuver that the pilot made in his endeavors to maintain a straight course.

In the total number of cases examined, it was found that equally as many turned to the right as to the left, while a very small proportion of the flights showed a heterotropic tendency, that is, to turn in either direction, or to reverse directions in a single flight. Whether the subject pilot was right- or left-handed made little difference in this respect.

Many pilots have felt that the flying sense was largely one of muscular balance and that visual reference played a more or less insignificant part. These experiments should serve to remove this idea, and develop appreciation of the fact that muscular balance plays an extremely small part in flying, excepting in correlation with visual reference in the development of a polished technique.

Visual references of some sort must be provided, either by the horizon, or by the reflection of the sun or moon while in dense fog or clouds, or by proper instrumental equipment.

It will be noted that these experiments in no way parallel any normal condition of flight, since, being blindfolded, the subject pilot had absolutely no opportunity for visual reference of any kind, a condition which seldom could occur in actual practical flight.

The fact should not be neglected that the use of proper navigational instruments provides an artificial horizon, if not in a single instrument, then in the correlation of several instruments, such as a turn and bank indicator and an air-speed meter.—*United States Daily*, September 9, 1929.

First International Congress on Mental Hygiene will be held at Washington, D. C., May 5 to 10, 1930. Many subjects are listed on the program of the First International Congress on Mental Hygiene, just received from John R. Shillady, administrative secretary, 370 Seventh Avenue, New York City. Practically all aspects of mental hygiene will be covered at the congress. Details of the program have been worked out by a committee of which Dr. Frankwood E. Williams, medical director of the National Committee for Mental Hygiene, is chairman, collaborating with correspondents in many countries. Topics are now ready for publication, and are contained in an informing thirty-three-page *Preliminary Announcement*, obtainable from headquarters office. The congress will be held in Washington, D. C., May 5 to 10, 1930. President Hoover accepted the honorary presidency of this congress, and delegates are expected from more than thirty countries.

California and Western Medicine
Owned and Published by the
CALIFORNIA MEDICAL ASSOCIATION
Official Organ of the California, Utah and Nevada Medical Associations
FOUR-FIFTY SUTTER, ROOM 2004, SAN FRANCISCO
Telephone Douglas 0062

Editors . . . . . { GEORGE H. KRESS / EMMA W. POPE
Associate Editor for Nevada . . . HORACE J. BROWN
Associate Editor for Utah . . . . . J. U. GIESY

Subscription prices, $5.00 ($6.00 for foreign countries); single copies, 50 cents.

Volumes begin with the first of January and the first of July. Subscriptions may commence at any time.

Change of Address.—Request for change of address should give both the old and the new address. No change in any address on the mailing list will be made until such change is requested by county secretaries or by the member concerned.

Advertisements.—The journal is published on the seventh of the month. Advertising copy must be received not later than the 15th of the month preceding issue. Advertising rates will be sent on request.

Responsibility for Statements and Conclusions in Original Articles.—Authors are responsible for all statements, conclusions and methods of presenting their subjects. These may or may not be in harmony with the views of the editorial staff. It is aimed to permit authors to have as wide latitude as the general policy of the journal and the demands on its space may permit. The right to reduce or reject any article is always reserved.

Contributions—Exclusive Publication.—Articles are accepted for publication on condition that they are contributed solely to this journal.

Leaflet Regarding Rules of Publication.—California and Western Medicine has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this journal write to its office requesting a copy of this leaflet.

EDITORIALS

THE C. M. A. AND THE YEARS 1929 AND 1930

Greetings.—Another calendar year has come to its close, and a new year—1930—has been ushered into existence. CALIFORNIA AND WESTERN MEDICINE again has the privilege of extending the felicitations of the season to its readers, and of expressing the hope that 1930 will be a year of progress for organized medicine in the states of California, Nevada and Utah, and of satisfactory achievement for the members of the medical associations of those commonwealths.

At this time when resolutions for the new year are the order of the day, it may be proper also to dwell for a few moments on some of the aims which were realized in 1929.

* * *

California Medical Association Incorporation. The California Medical Association by vote of more than two-thirds of its members has approved the recommendations of the Council and of the House of Delegates that it be incorporated in accordance with the resolutions passed at the last annual session at San Diego. This *fait accompli* should be gratifying to the entire membership of the Association. It is particularly pleasing to the members of the Council, who have given much thought and study to the subject during the last several years and who are convinced that this incorporation will make for a more substantial association permanency and for greater developmental progress than would otherwise have been possible.

* * *

Revised Constitution and By-Laws.—Closely identified with the incorporation of the California Medical Association was the revision of the constitution and by-laws of the Association. A copy of the new rules of procedure has been mailed to all members of the California Medical Association. Any member who has not received a copy is requested to notify the central office at San Francisco.

This revised constitution and by-laws has attracted the attention of the national and of other state associations, and at the annual conference of state society secretaries and editors which was held at the American Medical Association headquarters at Chicago in November last, the editor of this journal was invited to read a paper on the subject. It is our belief that these new rules of procedure will not only work for the advancement of the California Medical Association, but that a considerable number of the provisions will commend themselves to other state medical organizations as being worthy of adoption. The changes which were incorporated are those which past experience suggested. Through these new rules the transaction of association and organization business should be made more easy and more effective.

* * *

Woman's Auxiliary of the California Medical Association.—The year 1929 saw the founding of a "Woman's Auxiliary of the California Medical Association." In some other states, such organizations have proved to be of real value. Scientific medicine needs the coöperative aid which can come through such auxiliaries. Whatever makes for better understanding among physicians and their families makes for better organization. Nowadays women's clubs exercise a strong influence on civic affairs. The families of physicians have a natural interest in public health problems. A state Woman's Auxiliary of the California Medical Association, composed of component county woman's auxiliaries, can become a real factor in promoting public health work. The basic rules which were laid down for this new organization in relation to the state and component county medical societies, should make it possible for work to be carried on, not only without friction, but to the great advantage of the aims of organized medicine.

* * *

The Coffey Plan.—For want of a better name, the studies which for some time have been carried on by the Council and certain standing committees of the California Medical Association, and bearing on the evolvement of a plan which aims to bring efficient medical and surgical service to that large group of citizens who are in what might be called certain portions or strata of the great middle class of our population, while at the same time safeguarding the standards and interests of

scientific and organized medicine and of individual practice as it exists today, are referred to as the "Coffey Plan." As has been previously stated in this column, Dr. Walter B. Coffey of San Francisco submitted a plan designed to accomplish ends such as the above, as a working basis for further studies. He is not committed to his tentative outline nor are the members of the Council committed to it. But it serves as a good starting basis for further study and investigation.

The problem is a most difficult one, and if California can solve it in good part, and in such manner as to accomplish the ends noted in the previous paragraph, it will be very much to the credit of the California Medical Association. The members of the Council are colleagues who have had long experience in private and institutional and organization medical practice, they are men who are practical and of good judgment of values, and their studies should make for progress in the solution of some of these very vexing problems which have been thrust before us, through the great changes which in recent years so unexpectedly have taken place on so broad a scale in the ways and standards of living of very many of our lay fellow citizens.

* * *

Possible Revision of Medical Practice Act.—A large special committee, with a San Francisco group, a Southern California group, and an At-large group, has been appointed to make a special study of the Medical Practice Act of California. If the studies of this committee lead to nothing more than endorsement and codification of the present provisions of the Medical Practice Act, that in itself would be worth the while. The studies, however, should lead to more than that. These medical practice laws are the legal standards which are laid down for the guidance of medical men and women. Such statutes should conform to the highest standards of scientific medicine, and should make for the best possible protection of the public health, as well as of the interests of the medical profession. The members of that profession, through many years of service in county and other public hospitals, have placed the citizens of California under heavy obligation for the gratuitous work so altruistically given. Because of the generous service which was and is so gladly and efficiently given, the medical profession is especially worthy of consideration when its members put forth legislative suggestions designed to better protect the health of the people and to promote the material and cultural interests of our commonwealth. In making these statements we are not boasting. We are simply calling attention to a record of service which, because of a foolish modesty or oversensitiveness on the part of the medical profession, has permitted the lay public to accept the same as a matter of course and often without any sense of appreciation.

* * *

Possible Basic Science Law for California.—The last several decades have witnessed, especially in California, the legal recognition of such a considerable number of cultist practitioner groups that some members of the profession have acquired the habit of thinking that all remedial legislation to curb such deplorable introduction of low educational and professional standards, as it is usually found to exist in new cultist groups, is quite hopeless. Such attitude of resignation to an evil is neither necessary nor proper. It is quite possible that in the past our profession has approached the solution of certain of these cultist medicine problems by the wrong routes. There is a safe groundwork upon which can be built legitimate opposition to cultist or low standard healing art practice. That groundwork rests upon the axiomatic principle that all intelligent citizens concede and agree that a certain amount of preliminary education, as well as professional training, should be possessed by every practitioner of the healing art who seeks a legal sanction to practice and to have under his custodianship, the health and lives of lay fellow citizens who come to him in good faith.

A high school education is conceded by all persons to be a very legitimate preliminary minimum, as regards education, which should be necessary to professional training proper. The value of a high school preliminary education is this, that it will increase the difficulty for cultist promoters of the future, through inability to obtain a sufficiently large number of disciples having a full high school education, to profitably launch their cultist movements. With only a small group of adherents in their first student bodies, it should be possible in the future to keep such as yet unborn cultist and low standard educational groups from receiving legal recognition. A proper basic science law will make it easier to accomplish this beneficent result for the citizens of California. Therefore the special committee referred to in the comments on the California Medical Practice Act will also study basic science laws.

* * *

Standing Committees of the California Medical Association.—Chapter V of the new by-laws deals with standing committees. A directory of standing committees is printed in every issue of CALIFORNIA AND WESTERN MEDICINE (see front cover index under Miscellany). The attention of members of such committees is called to this Chapter V of the by-laws, in which is outlined the organization work to be covered by each committee. All standing committees should be active agents in promoting the welfare of the California Medical Association. Section 21 of Chapter V specifies that a written report must be submitted annually by every standing committee so that the same may be printed in the "Preconvention Bulletin" for the information of members of the House of Delegates. Members of standing committees are therefore requested to read Chapter V and to get their work under way so that reports may be ready for the Del Monte session of the House of Delegates. The central office of the

Association in such work is at the service of all committees, and invites correspondence and offers its full coöperation.

* * *

Last, But Not Least, the Year 1930 Is a State Election Year.—This caption is presented to remind us of our individual civic obligations to be interested in the complexion of the next state legislature, many of whose assembly and senate members will be elected in the fall of 1930. These particular lay fellow citizens who will have legislative powers should be contacted at an early day and an intelligent effort made to acquaint them with the viewpoints of physicians as regards maintenance of proper standards in medical licensure and in public health activities. It is not fair to criticize members of the assembly and senate when they vote in opposition to the maintenance of such standards if we have made no previous attempts to acquaint them with medical problems which may come before them, and to inform them why we hold certain opinions thereon. The medical profession does sufficient service in the protection of the public health of California to merit careful consideration of its viewpoints. Legislators will be found to be glad to give such consideration if proper contacts are made from the beginning. Every member who knows a state assemblyman or state senator or a prospective state assemblyman or senator may well cultivate such acquaintanceship or friendship, for it later on might be of real value in the protection of public health interests. In responsibilities such as this every member of the California Medical Association can be of service. The officers of the Association can only act for and speak on behalf of their fellow members.

NEW COUNTY SOCIETY OFFICERS—SOME OF THEIR PROBLEMS

The New Year Brings New County Officers.—Once again, at the beginning of this new year, most of the component county societies of the California Medical Association will find themselves taking up their meeting and other work under new groups of officers. Some of these officers will have gone through the apprenticeship of other society positions of responsibility, and especially if they have functioned as secretaries of their societies they will be able to have a somewhat intimate knowledge and judgment of county society work and needs. It is well, however, no matter how great our past experience may have been, at the beginning of work that will cover the program of a calendar year, to make somewhat of a survey of the objects which a county society should seek to accomplish. On that account some of these aims, which in times past have been discussed in detail, will be here commented upon.

* * *

Intensive and Extensive Functions of a County Unit.—The development of a county medical society may be said to fall under two major heads.

The one set of major activities are of an internal or intensive nature and have to do with all those efforts which would bring to the members of the county society the most profitable association possible; while promoting the unity and good understanding of the members and so making for a component county society that will find its proper local place in the scheme of state and national expressions of organized medicine.

The other set of major responsibilities has to do with the outward or external work or extensive activities of a county unit. Here come up membership problems of nonaffiliated physicians, and contacts wherein the county society as an organization and through its members as individuals makes its influence felt in civic affairs and in lay and affiliated organizations.

That county unit will have the best record for progress whose officers visualize its problems in these two fields and who use intelligent and practical efforts to solve the same. The responsibility for successful or nonsuccessful performance of a county society's activities for the year 1930 must necessarily rest upon the officers who by their fellows have been selected for positions of honor, because of the belief of their fellow members that as officers they would generously give of themselves in service to organized medicine.

* * *

Medical Meetings Should Have a Twofold Nature, Scientific and Good Fellowship.—Medicine is a growing science. Its members seek the inspiration and stimulation which comes from consideration and discussion of the experiences and problems presented by colleagues. Therein lies the basis of the scientific programs of medical meetings.

Essayists should be of two classes: One, local members who present studies and problems concerned with local practice and with whom exchange of opinion, from the standpoint of local environment, makes for more efficient methods in practice; two, invited guest speakers. In California the component county societies, through the extension lecture department of the California Medical Association (see page 294 of the October 1929 issue), have an opportunity to bring to local society meetings colleagues from other cities who are prepared to present papers on a large number of scientific topics. County societies owe it to their own members from time to time to invite one or more of such guest speakers to their meetings. A perusal of the proceedings of some of the county units shows that they are alert to the advantages to be derived from such outside speakers. The program committees of every county society should hold a meeting at an early date and outline in fairly definite form the work to be covered in the scientific meetings, and what local and guest speakers are to be invited. A program committee which permits the scientific proceedings to rest on what may be called haphazard voluntary presentation of papers is not often in position to congratulate itself on having made a real effort properly to do its work.

Program committees should also appreciate that the development of good fellowship and of fine and generous understanding between mem-

bers of a county medical society may be quite as important as the scientific problems. Informal buffet lunches and suppers are big aids in this, as is attested by the goodly number of county societies which report such activities. A county medical society whose members are broken up into groups, with only casual acquaintanceship or friendship relations between members, cannot really be stated to be a well organized county unit, no matter how large its numerical membership may be. The medical profession, in greater degree than ever before, today needs good fellowship among its members because, without such understanding, the medical profession will not be in position to solve to best advantage the economic and social problems connected with medical practice. Let us know one another and understand one another. Such understanding will make for our individual and our collective development.

* * *

A Special Topic for Study in 1930.—Reference has been made in this column to certain studies being carried on by state society officers in relation to evils that would threaten medical practice in case state medicine ever acquired a foothold. These topics of the so-called "high cost of medical care" (an unfortunate misnomer), and of so-called "state medicine," are worthy of a place on the program of every county society in California if for no other reason than to show how large and many are the problems connected therewith, and how very difficult is their solution. If the members of each county society will study these questions, then a foundation will have been laid for a better evaluation of any plan that might later on be presented by the parent or state association.

All physicians must earn money in order to live. These topics have much to do with these money or economic phases of professional practice. It is worse than silly to imply that they should not have a place or serious consideration in our meetings. Some of our present-day problems have arisen in good part because of our accentuation and overemphasis of scientific papers, with almost total neglect of papers or discussions having to do with the economic problems of medical practice. As a group we may be peculiar in that we may not strive for much monetary enrichment or material ease or luxury, but that is no reason for pretending that economic problems must not be mentioned or discussed in our meetings.

* * *

Woman's Auxiliaries in County Societies.—In the Miscellany department of this issue of CALIFORNIA AND WESTERN MEDICINE is printed an outline of work for woman's auxiliaries. In this column, in the November 1929 issue, page 351, were printed some comments on how to organize county woman's auxiliaries. Prior to the next annual session at Del Monte on April 28, every component county society should aim to bring a woman's auxiliary into existence. The advantages of such auxiliaries have been outlined elsewhere. The California Medical Association has committed itself to the sponsorship of such organizations. Each county society should do its part by bringing such a local auxiliary into being. The state auxiliary will then be able to take up its further work in earnest when the annual session convenes at Del Monte. Here again the credit or discredit of forming or not forming such county auxiliaries must rest largely on the shoulders of the officers of our county medical societies.

* * *

Revision of County Society By-Laws.—A considerable number of county societies have rather loose rules of procedure. They learn this to their sorrow when certain difficulties arise. Every county society must conform to and adopt those portions of the constitution and by-laws of the California Medical Association which apply to component county societies. Every member of every county society in the California Medical Association has recently received a copy of the state society constitution and by-laws. Here again we have a convenient working basis or starting point in a consideration of a possible revision of county society constitutions and by-laws.

It would be a distinct advantage to medical organization in California if the constitutions and by-laws of all county societies were modeled in good part after this California Medical Association general pattern. Would it not be a wise procedure if every county society in the near future appointed a committee to bring in a report on a possible revision of its constitution and by-laws, with instructions to use the California Medical Association draft as a basis for incorporation of such local modifications as local needs or customs might make desirable? It should not be difficult to make such transpositions. Each county society thus would be working in closer harmony and coöperation with other county societies as well as with the parent state organization. A better opportunity for such a study could not be asked for, because all members have a copy of the printed state constitution and by-laws as a basis for comparison. This will be a good year in which to make such a study.

* * *

Membership Growth.—Every member receives each year two directories of California physicians. One of these directories is issued by the California Medical Association and the other by the Board of Medical Examiners of the State of California. The general county arrangement of names follows the same general form in the two publications. It is therefore easy to scan the lists in the different counties and to note who are the nonmembers.

Other things being equal, mere graduation from certain high-grade schools of medicine should imply that each such graduate should be affiliated with organized medicine. If such is not the case, the reasons for such nonaffiliation should be known to the society officers.

With so easy and simple a method of reference, why should not every county society instruct a standing or special committee on membership to bring in to it or its council a report

on presumably eligible physicians who are nonmembers? Why must this type of work be left to happy-go-lucky chance? We are organized in medicine to promote scientific standards and to promote the interests of the public health and the welfare of our members. Let us use that same common-sense acumen and judgment in these matters which we see everywhere manifested by business and other organizations which are successful. The practice of medicine is very individualistic, it is true, but in our group organization and group efforts we should use those methods which are recognized as efficient parts and parcels of group activities. Bringing all eligible nonmembers into active membership affiliation with us is one of the very special of such group activities. If we give this work its proper recognition our county units and our state association both will profit and be the stronger. Such a study should be promoted by all county society officers who wish to see their societies go on to fullest possible development.

INDIVIDUALISM AND THE GROUP SPIRIT IN THE PRACTICE OF MEDICINE

Individualism in Medicine.—The December issue of CALIFORNIA AND WESTERN MEDICINE presented as its opening article a paper on "Individualism in Medicine," from the pen of this year's retiring president of the American Medical Association, Dr. W. S. Thayer of Johns Hopkins University. The paper was of such exceptional worth that the wish comes that every member of the California, Nevada and Utah Medical Associations would take the time to read it. Its clarity and charm in describing some modern-day tendencies in medical practice will amply reward all who give it their perusal and consideration.

In none of the learned professions are men called upon to play such lone hands, as it were, and to lead such individualistic professional lives as in the practice of medicine. As a matter of fact, it is almost impossible to conceive of successful practice without such individualism. This personal contact with a patient and the responsibility for one's patient is a something which, as Dr. Thayer well states, cannot be passed to another. It is also equally true, as he points out, that "coöperation in the mere sense of division of responsibility is not coöperation."

It is good for us to keep in mind these fundamental principles which have to do with the art and science of medical practice, for in so doing we may be saved the embarrassment of finding ourselves worshiping at the altars of what seem today to be scientific facts, but which in the light of the tomorrow may have far less real value than their supposed worth of the present would indicate.

In our quest for greater attainment in the scientific phases of medical practice, it is also wise not to belittle those important procedures which have to do with what is the art of medicine, lest in so doing we create limitations of outlook that may keep us from measuring up to that full efficiency which is characteristic of the highest type of physicians. And above all else, let us guard ourselves well, so that we join not that fortunately somewhat limited group in our own profession who might be called the intellectual snobs, and who in our profession, as in other callings where such self-sufficient individuals are found, magnify the little extra book or other knowledge or skill or success which they may have acquired until it becomes a detriment to themselves and to their capacity for larger service, as well as a reflection on that large group of physicians who seek increased knowledge and efficiency for the heart and mind satisfaction of being able to be more useful to their patients, while at the same time endeavoring to maintain that humility of demeanor which has always been associated with real greatness, wherever found.

* * *

The Group Spirit in Medicine.—Medicine needs the stimulus of group association as well as that which is a part of individualism. The group spirit in medicine may be said to have two major expressions.

One of these major phases of group spirit was indicated when Dr. Thayer called attention to the need of group association and coöperation in the care of individual patients. That expression of group spirit is one of which every physician must avail himself, unless he be absolutely isolated and far away from his fellows. Even then such an isolated colleague can maintain coöperative effort through his journals, with his fellows who are more fortunately situated, by learning from their writings concerning the newer methods of procedure that would be to the advantage of his patients.

As an expression of the second major phase of group spirit, this journal, and the state medical associations which sponsor it, can be taken as examples. Another name for this particular phase of group spirit is "organized medicine." Every activity carried on by organized medicine, that is, all efforts put forth by groups of physicians who form various medical societies, are efforts which are an expression of this type of group spirit. To partake of the same, one must enter into the work with unselfish, impersonal motives, and with the determination to work and serve in the activities which are put forth by such societies, when they endeavor in the advances made by civilization, to place the standards and practice of medicine on the highest possible plane of service.

In such an organization plan the splendid scheme propounded and put into being years ago, whereby in every county of these United States one medical organization, and only one, was to be officially recognized, these to make up the state organizations, and those in turn to compose the national or American Medical Association, has been the means of explaining much of the remark-

able progress which is to the credit of American medicine during the last three decades.

But creditable as that record of achievement in organization may be, it is far, far from what it could or should be. All about us, on every hand, are organizations, seemingly without end, which seem to have a more substantial substratum in material resources than that possessed by organized medicine. Yet none of these organizations have so large a proportion of members who do so much service for unfortunate fellow citizens, often without monetary or other reward, as that of the profession of medicine. It is conceded by all honest thinking members of the laity who have studied these matters that the medical profession is entitled to more recognition for its altruistic principles and work than it actually receives. Yet the fact remains that the ancient profession of the healing art could learn much concerning effective organization from a host of groups and societies that seem to have been born but yesterday.

Wherein then, do we fail? Is it because we do not sufficiently dissociate ourselves from our daily individualistic lives? Do we not, through such non-association, prevent the realization of achievement results which would be ours were we only to contact with one another and work shoulder to shoulder with one another, as could rightly be expected of colleagues in a noble profession to which each has pledged his faith and homage?

It has been the fashion of some members of our profession to decry medical organizations and medical society work. Yet these same colleagues are often usually more than willing to accept any and all official honors which such medical organizations can bestow upon them. Sometimes one is almost tempted to think that some of these non-coöperative, non-group spirit colleagues, who give practically nothing to the medical organizations which protect the interests of all of us, indulge in their criticisms, largely because in their selfishness, they have inwardly taken umbrage at such official nonrecognition, or because they look with envious eyes on official recognition of colleagues to whom such honors have come as a reward for altruistic service. To cover up their personal non-coöperation, they pose as being above medical societies and indifferent to the work of such organizations. Such colleagues should remember that even though they themselves are unwilling to coöperate in group efforts, it is not necessary to belittle or tear down the work of other more generous colleagues.

In conclusion let us repeat that individualism in medicine will always be with us because the nature of our professional work constantly accentuates individualistic spirit. On the other hand, the group spirit seems to assert itself with us, only in spasmodic form. In some colleagues it is strong, in others it seems altogether absent. We belong to those who hold that the group spirit in medical practice should be nurtured and developed. It is the happy combination of individual and group effort that will give American medicine the opportunity to make its greatest strides in the future.

* * *

MARY BAKER EDDY—A LETTER AND A BOOK REVIEW

Policy of This Journal on Religious and Public Health Matters.—It is the policy of this journal not to discuss religious matters in its pages. This policy, however, does not preclude the mention or presentation of information having to do with general principles related to public health responsibilities, or with basic principles in news or educational procedures when such principles become involved in the acts of either healing or non-healing religious groups.

That is why in this issue is here printed so unusual a caption reference as that which heads these comments. The object thereof is to call attention to an open letter which is printed in the Correspondence column of the Miscellany Department of this number, and to a review which appears in the Book Review column.

* * *

Astounding Statements in the Letter.—The letter referred to gives the experiences of a member of the California Medical Association in trying to purchase a copy of the biography entitled "Mrs. Eddy—The Biography of a Virginal Mind" by Dakin, in the different book stores and department store book departments of Los Angeles. The perusal of the letter will give a shock when it is learned that a book brought off the press by a reputable publishing house and having the sanction of the United States Government to go through the mails seemingly should be practically barred from the sales counters of such stores. Certainly if such book and department stores do so un-American a thing out of slavish or other fear of one group of citizens who may be averse to having the biographical volume read by other Americans, then it is proper that such stores should appreciate that such actions on their parts will be given publicity. Such publicity among the two camps of for and against citizens will permit such stores to receive what they presumably seek, namely, to benefit from the business accruing to them from the larger purchases made by whichever group of citizens is seemingly favored through such partisan espousal of interests.

* * *

Principles Involved Are Important.—Because a knowledge of biographical data is more or less essential to an understanding of the physical, psychological and supposedly spiritual doctrines propounded by the founder of a spiritual healing sect, which in its work or mission contacts somewhat intimately with public health work and procedures, members of the medical profession have a very natural interest in such a biography. Because of the free speech and free-press principles which are involved, references to the letter and book review are accordingly here made so that all readers who so desire may acquaint themselves more fully concerning the issues and facts involved.

MEDICINE TODAY

Current comment on medical progress, discussion of selected topics from recent books or periodic literature, by contributing members. Every member of the California Medical Association is invited to submit discussion suitable for publication in this department. No discussion should be over five hundred words in length.

Ophthalmology

Chronic Dacryocystitis.—Cordes and Martin have called attention to the subject of chronic dacryocystitis by reporting the cure of epiphora and suppuration in over 90 per cent of selected cases by doing the Mosher-Toti operation. This procedure, as well as the Dupuy-Dutemps operation, makes an opening from the tear sac into the nose by using a skin incision and intranasal manipulation. The West procedure is done by intranasal manipulation only. From a review of the literature one finds that the percentage of cures reported by any one of these methods in competent hands averages well over 85 per cent. Cases must be selected where the obstruction is in the lacrimal duct and where the canaliculi are intact. In the face of statistics such as these we must recognize that extirpation of the lacrimal sac for the treatment of chronic dacryocystitis should no longer be the procedure of last resort. We know that one always has more or less troublesome epiphora after extirpation of the sac, so that when there is an 85 per cent possibility of reëstablishing drainage the patient is entitled to the benefit of one of these procedures before advising removal of the sac.

M. F. WEYMANN,
Los Angeles.

Medicine

INTRODUCTION

The Present Status of Liver Function Tests.* The time for evaluation of the various liver function tests has come. Thirty years ago Strauss introduced the first liver function test and the last twenty years have seen intensive work on this subject, particularly in the United States. This feeling that we can take stock in what has been accomplished is widespread, as can be seen from the recent publication of large series of from 300 to 1200 cases in which comparisons between the various liver function tests are drawn. Moreover, judging by the remarkable similarity of opinions of various workers on the relative merits of these tests, such a feeling is entirely justified.

The brief summary presented here is based on a survey of the recent literature in addition to the experience in this field of the University of California Department of Medicine which comprises a series of nearly six hundred cases in which the Rose Bengal liver function test, developed by Delprat, Kerr, and Epstein, was done and smaller series of most of the tests which will be discussed.

There are two great classes into which all tests of liver function can be divided, the metabolic and the excretion tests.

PART I

Among the functions of the liver, those pertaining to carbohydrate metabolism are of great importance, and here we have the well-known levulose- and galactose-tolerance tests. The objections to these sugar-tolerance tests as an indication of liver function are twofold. The first and very real objection is that while sugar metabolism suffers in diseases of the liver, beyond reasonable doubt, with the present technique, this is susceptible of consistent demonstration only by group averages. In the individual cases, even of proved liver disease, the results of these tests are so often within the upper limits of normal as to rob them of any great significance. The second objection is that other organs, such as the pancreas, the pituitary, and the muscles, also play a prominent rôle in carbohydrate metabolism and, therefore, any discovered abnormalities of it may not be due specifically to liver deficiency. The first difficulty may in time be overcome by improved technique of the tests. The second objection in theory we never will be able to disregard totally. However, the probability is that, in practice, with a suitable sugar-tolerance test at hand, it will present no greater difficulties to the diagnosis of liver disease than the fact that sugar utilization is not solely dependent on the pancreas interferes with our diagnosis of diabetes.

Another set of functions of the liver, of prime importance, deals with the metabolism of nitrogen compounds, and many phases of it were selected at one time or another as reflecting in a qualitative or quantitative way the functional activity of the liver.

Here can be mentioned studies of urea, uric acid, total nonprotein nitrogen and amino-acid fractions of the blood and that of ammonia, undetermined nitrogen, amino-acids, urea and uric acid in the urine, as well as the quantitative interrelations of these substances.

Unfortunately, even the best of these tests up to the present were open to the same two objections as the sugar-tolerance tests, namely, consistency of results only in the case of disease groups, but not individuals and the possible influence of changes in other organs on the outcome of any given test. However, the appearance of the amino-acids, leucin and tyrosin in the urine

* From the Department of Medicine, University of California Medical School, San Francisco.

* Read before the General Meeting of the San Francisco County Medical Society, April 9, 1929.

can be accepted as evidence of rapid liver tissue disintegration.

Some very hopeful work on the urea formation function of the liver is in progress at the Mount Sinai Hospital in New York, but there is need of more work before final judgment can be passed on this test.

Only recently attempts were begun to determine the detoxicating power of the liver, and Vesell and Sherwin have obtained promising results with acetylation of para-aminobenzoic acid by the liver.

The obvious conclusion from the foregoing is that at present metabolic function tests of the liver cannot be recommended for practical use.

T. L. ALTHAUSEN, San Francisco.

(Part II will be printed in next issue.)

Ear, Nose and Throat

Recognition of Infected Tonsils.—While the theory of focal infection is based on scientific foundation, the practical application of this theory is in many instances not so scientifically worked out.

Recognition of infection in tonsils well illustrates this point. In the majority of cases only the size of the tonsil is considered, whereas their size, color, presence of pus or caseous debride in the crypts, and bacterial flora by culture, should be examined and secondary manifestations of infection be taken in consideration.

History of frequent colds and sore throats, complaint of lack of pep, fatigue and lowered resistance to infection supply signs of a toxic condition which may be the result of an infection in the tonsils.

It is a customary routine to notice first of all the size of the tonsils. In the textbooks, the statement is usually made that the size of the tonsils is normal if they do not project from the pillars, otherwise they are hypertrophied. In the light of modern knowledge, this definition should be revised. In children very large hyperplastic tonsils can often be seen as a manifestation of status lymphaticus. The pathologic significance of this type is rather negative, the enlargement causing only a mechanical obstruction. On the other hand, the observations of many authors definitely establish the fact that even very small remnants of not completely removed tonsils, if infected, may be the cause of very serious complications.

Therefore, not the size of the tonsils, but the presence of infection in them should be first established. The anterior pillar should be retracted and gentle pressure be exerted upon the tonsil and, in a surprisingly large number of cases, a drop of liquid pus or of caseous matter will be pressed out from some of the crypts, even when the tonsil at sight appeared more or less innocent.

The color of the tonsil and of the surrounding parts supply a great deal of information. While in normal condition, its color does not differ from the surrounding mucous membranes; when inflamed, various shades of red discoloration are present. In adults, infected tonsils of fibrous type, or submerged tonsils, are usually pale, whereas, the inlets of the crypts are inflamed and a characteristic red border is present along the anterior pillars, indicating a deeply seated infection. The extension of the infection from the tonsil to the lymphatic tissue on the lateral walls of the pharynx and into the hypo-pharynx, should be considered. Systemic manifestations as rheumatism, neuralgias, myocardial involvement and so on, are signs of secondary foci of infection.

A complete study of the tonsil should include a bacteriologic examination of the flora of the pus expressed. Besides different groups of staphylo or streptococci sometimes tubercle bacilli or Vincent's bacilli can be found. In single instances syphilitic lesions on the tonsils will be established.

BENJAMIN KATZ, Los Angeles.

Medicine

The Stramonium Treatment of Chronic Encephalitis.—Acute encephalitis occurs most commonly in the form of postinfluenzal epidemics, but may occur sporadically. Formerly it was called encephalitis lethargica, but as the tendency to sleep has become uncommon in recent years the term of epidemic encephalitis is now usually applied. In a large number of cases it lapses into the chronic form, or the chronic stage becomes manifest up to one or even two years following the acute illness, the interval period often being one of good health. Not infrequently no antecedent acute stage can be identified.

The most constant clinical feature of chronic encephalitis is the Parkinsonian syndrome. The flexion attitude, the mask-like face, the muscular rigidity and the propulsion gait, together with tremor, make up this syndrome, but the last symptom, so constant in idiopathic parkinsonism of old people, is often lacking. There are many complications dependent on the extrapyramidal tract system, some of which may well be considered part of the disease. Common ones are bradykinesia, blepharospasm, oculogyric crises, drooling, slow speech, trismus, hyperhydrosis, dysphagia, myalgias, hyperpnea, myoclonic spasms, paresis, and catatonia. Mental changes may be striking, but retardation is frequently inconspicuous. In children there may be a complete alteration in character, the so-called apachism. Adults are subject to emotional outbursts often considered hysterical, and in the worst cases their response is so poor that it is difficult to estimate the condition of their intellect.

The onset of the symptoms of the chronic stage is insidious. The condition is usually diagnosed as "neurosis" or "hysteria." It may be months, or even years, before typical parkinsonism develops together with some or many of the other late symptoms. After a variable period of time the disease in many patients apparently becomes

arrested. A few remain active and able to carry on some sort of suitable work, many are semi-invalids requiring considerable attention but still able to get about, but the majority are bedridden invalids. Doctor Crossman of Washington, D. C., recently stated that 217 of 273 hospitalized chronic encephalitis patients were totally disabled.

Institutions care for many of these patients and they are a great problem. When we realize that a large number have to be bathed, clothed, fed, and waited upon for every want and need, often while in full possession of their mental faculties, it is evident that any therapy which will in any way improve their condition will be of great value.

Four and one-half years ago Juster reported encouraging improvement in a case treated with large doses of Datura stramonium. A year later observations on twenty-four cases similarly treated were briefly reported upon from Paris, also with good results. Only three articles have appeared in English to date. Two noted that almost all symptoms improve under Juster's method of treatment and that all cases improve except the aged ones. Jacobson and Epplen presented at the last American Medical Association meeting in Portland a review of twenty-six cases including some with true Parkinson's disease. They used the tincture of stramonium, and concluded that all patients were benefited, some remarkably so. These reports together with a brief one on four cases from the Veterans' Bureau represent all the available information on the subject. Articles are still appearing in the medical journals discussing the treatment of chronic encephalitis which do not even mention Juster's method of therapy.

The essence of this method of treatment is to use large doses of stramonium. A daily total dose of 6 to 12 cubic centimeters of the tincture or 1 to 2 grams of the dried leaves is the most effective. Equal doses of the tincture are given three times a day, beginning at 1 cubic centimeter t. i. d. and working up to 3 or 4 cubic centimeters t. i. d. within three days. Improvement is usually noted within forty-eight hours. The treatment must continue indefinitely, as the patients relapse within a few days if it is stopped. Signs of intolerance or overdosage by this method are not frequent. They are: difficulty of vision, dryness of the mouth, nausea, a sense of constriction in the chest, and diarrhea. All of these clear up in two or three days on suspending treatment, and do not tend to recur on using smaller doses. As to prognosis it is impossible to judge which patients will receive the greatest benefit, as frequently bad cases of long standing are helped the most.

The improvement is striking in many cases, particularly in the patients' mental attitude. They nearly all "feel better." Their activity and their powers of enjoyment may be greatly increased. Some bedridden invalids are actually able to be up and about, and others less afflicted are able to resume light work. Many are at their best if they take hyoscin in addition to stramonium, and this should not be lost sight of. All patients are not benefited, but certainly for the great majority Juster's method of stramonium treatment stands out as one of the really great advances in modern therapeutics, particularly as chronic encephalitis has previously always been a discouraging condition for any form of therapy.

GARNETT CHENEY, San Francisco.

Substandard Ether Is Seized by Government.—The largest shipment of ether for anesthesia ever detained by the Federal Government was seized at Bayway, New Jersey, recently after laboratory tests had shown that samples from a lot consisting of 108,300 quarter-pound tins were below the standards required under the Federal Food and Drugs Act. The seizure was made by the Food, Drug, and Insecticide Administration, United States Department of Agriculture, which enforces the Food and Drugs Act. This ether did not meet the requirements of the United States Pharmacopeia, which is the standard designated by the Food and Drugs Act for drugs in interstate commerce or imported from abroad.

The seized ether is part of a lot made during the World War for the Government. It was in storage until 1926, by which time it had deteriorated to such degree as to be unfit for use as an anesthetic. The War Department then sold it at a low price under bond that it was not to be used or resold for use as an anesthetic but only for technical purposes, such as in laboratories, for dry cleaning, or for fuel in starting motors. Contrary to the terms of the bond, some of this ether, labeled as anesthetic ether, was consigned to hospitals in small lots. These small lots were seized at once. Now this large shipment has been removed from the channels of trade by action under the Food and Drugs Act.

Although improvement has been made in the manufacture and packaging of ether in the last few years, some ether still shows deterioration upon standing in sealed tins. For this reason authorities have been especially vigilant in the inspection of ether.

Whether or not ether that has deteriorated is harmful to patients on the operating table, a matter upon which medical authorities do not entirely agree, is quite beside the point in the administration of the Food and Drugs Act. It is the duty of the officials enforcing this law to remove from interstate commerce all ether that fails to meet the standards set by the United States Pharmacopeia.—***United States Department of Agriculture, Office of Information, Press Service.***

Progress and Poverty.—Peculiar as it may seem, along with great wealth we have associated great poverty. Henry George, fifty years ago, coined the expression "Progress and Poverty" as the title to his memorable book which has had a tremendous sale since its publication. Henry George's contention is truer today than it was half a century ago when the greater part of the population was rural and in closer contact with the source of maintenance. It is said that at present those with incomes of $10,000 and upward number only two-thirds per cent of the whole population; only six per cent have incomes of $3000 and 14 per cent are in the $2000 class. This means that 86 per cent of the people have incomes less than $2000 a year. Through high-pressure salesmanship and the moving-picture theaters and other ways of absorbing incomes many of these small incomes are spent before they are earned, leaving no provision for emergencies to which category illness belongs. So while the medical profession has nothing to say in regard to the distribution of moneys appropriated, we cannot but be greatly interested in charity as a social problem. Broadly speaking, while charity may evoke generous responses on the part of the giver the increasing necessity for it indicates something wrong with our social and industrial life.—***The Journal of the Michigan State Medical Society,*** December 1929.

STATE MEDICAL ASSOCIATIONS

CALIFORNIA MEDICAL ASSOCIATION

MORTON R. GIBBONS.....President
LYELL C. KINNEY.....President-Elect
EMMA W. POPE.....Secretary

OFFICIAL NOTICES

Council Meeting.—The next meeting of the Council will be held at the office of the Association, Room 2004, 450 Sutter Street, San Francisco, January 18, 1930, at 10 a. m.

* * *

Apportioned Delegates and Alternates to Annual Meeting, 1930. Membership as of November 1, 1929.*

County	Members Nov. 1, 1929	Delegates to 1930 Session
Alameda	404	9
Butte	18	1
Contra Costa	37	1
Fresno	103	3
Glenn	7	1
Humboldt	36	1
Imperial	22	1
Kern	48	1
Lassen-Plumas	14	1
Los Angeles	1760	36
Marin	19	1
Mendocino	15	1
Merced	20	1
Monterey	28	1
Napa	25	1
Orange	86	2
Placer	26	1
Riverside	48	1
Sacramento	125	3
San Benito	7	1
San Bernardino	106	3
San Diego	217	5
San Francisco	931	19
San Joaquin	83	2
San Luis Obispo	15	1
San Mateo	29	1
Santa Barbara	74	2
Santa Clara	142	3
Santa Cruz	30	1
Shasta	9	1
Siskiyou	15	1
Solano	17	1
Sonoma	45	1
Stanislaus	39	1
Tehama	11	1
Tulare	36	1
Tuolumne	6	1
Ventura	29	1
Yolo-Colusa	25	1
Yuba-Sutter	13	1
Total	4720	116

*Constitution and By-Laws of the California Medical Association as amended and adopted May 8, 1929. Article V, Section 2.—Basis of Representation of Component County Societies. Each component county society shall be entitled to be represented by one delegate and one corresponding alternate for every fifty active members thereof, and also by one delegate and one corresponding alternate for each fraction of fifty active members in excess of fifty or multiple thereof as of the first day of November of the year preceding a current annual session. Every component county society having less than fifty active members shall be entitled to be represented by one delegate and one corresponding alternate.

Special Committee on California Medical Practice Act.—At the last meeting of the Council a special committee on revision of the California Medical Practice Act and a possible basic science law was authorized and appointed. Members of the California Medical Association are invited to send suggestions to the general chairman or the subcommittee chairmen. The committee is made up of representatives of the Council, of the Board of Medical Examiners, and of the medical colleges of California, and is composed as follows:

Bay region group: Morton R. Gibbons, San Francisco, group chairman; Emma W. Pope, T. Henshaw Kelly, Walter B. Coffey, Joseph Catton, Langley Porter, William Ophüls, Hartley Peart, San Francisco; Oliver D. Hamlin, Oakland.

Los Angeles group: George H. Kress, Los Angeles, general chairman; Percy T. Magan, Los Angeles, group chairman; William Duffield, William Cutter, William Molony, Los Angeles; Lyell C. Kinney, San Diego.

At large group: Junius Harris, Sacramento, group chairman; Percy Phillips, Santa Cruz; Charles Pinkham, San Francisco; Frederick Gundrum, Sacramento.

COMPONENT COUNTY SOCIETIES

ALAMEDA COUNTY

The annual meeting of the Alameda County Medical Association was held at the Ethel Moore Memorial Building on Monday, November 18, at 8:15 p. m.

The scientific program of the evening was presented by the staff of Peralta Hospital, the first paper being a report of an interesting case of fibrosarcoma of the lung by Dr. R. T. Legge. Doctor Legge reported a patient who came to him with a history of an acute pneumonia followed by empyema and drainage. The pneumonic process was typical in every way, and the chest had been drained of a purulent fluid over a considerable period. The first examination showed much fluid in the left chest with atelectasis of the left lung and a heart which was pushed definitely to the right. X-ray of the right chest showed a large mass diagnosed clinically as a malignant tumor of the lung. The tumor at autopsy proved to be a fibrosarcoma. An interesting point about this case was the fact, as pointed out by Doctor Legge, that a definite tumor mass had been discovered in this patient's chest two and one-half years before his death. At this time the mass was diagnosed as benign, probably a dermoid cyst. Doctor Legge's paper was discussed by Dr. C. L. McVey, who brought out the fact that there is a definite increase in malignant tumors of all types and in all locations, but that there is a particular increase in cancers of the lung. Doctor McVey further discussed the differential diagnosis of this lesion particularly in connection with the x-ray. Doctor Scudder reported a case of primary fibrosarcoma of the lung. X-ray diagnosis of chest tumors was discussed by Doctor Jelte.

The second paper of the evening was by W. O. French, Jr., on "Coccidioidal Granuloma." Doctor French reported a case which appeared to be a primary coccidioidal infection of the peritoneum which is the first recorded case of coccidioides limited to the peritoneal cavity. In the discussion of this paper Dr. H. J. Templeton showed two cases of well developed, definitely proved coccidioidal granuloma, both of which have completely healed under a treat-

ment consisting of intramuscular injections of colloidal copper together with vaccine therapy. This paper was discussed by Doctors Frank Bowles, L. M. Boyer, and W. A. Perkins.

The third paper of the evening was a discussion of the physical findings in a group of depressed individuals by Sidney K. Smith. Doctor Smith pointed out the importance of seeking a physical background for mental depression of various types. Doctor Smith's paper was discussed by Dr. Q. O. Gilbert. Following the scientific program the annual reports of the chairmen of the various standing committees and of the president and secretary-treasurer were read. The tellers reported the results of the annual election, and our new president, Dr. A. M. Meads, was called to the chair.

GERTRUDE MOORE, *Secretary.*

CONTRA COSTA COUNTY

The Contra Costa County Medical Society met on December 10, at Richmond.

Election of officers for 1930 resulted as follows: President, J. W. Bumgarner of Richmond; vice-president, S. N. Weil of Selby; secretary-treasurer, L. H. Fraser of Richmond. Delegate for 1930 and 1931, U. S. Abbott of Richmond. Alternate delegate for 1930 and 1931, J. F. Feldman of Richmond.

L. A. Hedges of Richmond was elected for three-year term as censor, to serve with H. L. Carpenter and John L. Beard, both of Martinez.

A committee composed of U. S. Abbott and L. H. Fraser of Richmond and J. M. McCullough of Crockett was chosen to represent the society at a mass meeting to be held at Memorial Hall, Richmond, on December 13, to discuss measures to secure a veterans' hospital for the East Bay region.

L. St. John Hely presided over this meeting.

* * *

The annual banquet of the Contra Costa County Medical Society was held on December 7 at the new Hotel Carquinez, in Richmond. This social gathering was pronounced a most enjoyable event by all who attended, with friendships engendered and mirth and pleasure predominant features. All those who were absent missed a real treat.

Dr. J. W. Bumgarner presided as toastmaster in the absence of President L. St. John Hely, and kept things lively throughout the evening.

A delicious turkey dinner was served; there was excellent music, furnished by the Milano Trio, between courses. Dancing was enjoyed by all at the conclusion of the banquet.

It was the consensus of opinion that such social contact among the members of the society and their wives goes far toward producing a close bond of friendship.

Thos present were: Dr. and Mrs. J. W. Bumgarner, Dr. and Mrs. G. W. Bumgarner, Dr. and Mrs. J. F. Feldman, Dr. M. Keser and Miss Driscoll, Dr. Rosa Powell, and Miss Redmond, Dr. and Mrs. U. S. Abbott, Dr. and Mrs. F. W. Overdahl, Dr. and Mrs. I. O. Church, Dr. and Mrs. H. D. Neufeld, Dr. and Mrs. M. L. Fernandez, Dr. and Mrs. J. M. McCullough, Dr. and Mrs. S. N. Weil, Dr. and Mrs. L. A. Hedges, Dr. and Mrs. L. H. Fraser, Dr. and Mrs. Hall Vestal.

S. N. WEIL, *Secretary.*

KERN COUNTY

Thursday evening, November 21, the Kern County Medical Society held its monthly meeting at the Kern General Hospital, Bakersfield.

Seymour Strongin, Keene, resident physician of Stony Brook Retreat, and M. A. Williamson of Lone Pine were elected to membership in the society.

Officers for the coming year were elected as follows: E. A. Schaper, president; E. S. Fogg, vice-president; George E. Bahrenburg, secretary-treasurer. F. J. Gundry was appointed as delegate to the state convention to be held next year in Del Monte, with J. M. Kirby as alternate.

Arrangements were made for our annual banquet, which is to be held at the Bakersfield Club, Thursday evening, December 12.

Rex Duncan of the Oncologic Institute of Los Angeles was the speaker of the evening, and gave a most interesting address on the treatment of cancer. He stated that cancer was on the increase; that at the present time it was the cause of 10 per cent of all the deaths of those over forty years of age. This disease occupies second place as the cause of death, and now destroys more lives than tuberculosis, which occupies fifth place. Doctor Duncan emphasized the fact that cancer is not hereditary. It is exceedingly important that an early and accurate diagnosis be made. He brought out the fact that frequently cases first seen by irregular practitioners who fail to recognize the condition present are later seen by competent medical men when they are so far advanced as to be beyond help. Cancer at present is treated by x-ray, radium, cautery, and surgery. Best results are secured in many early cases of cancer by giving x-ray and radium treatments. In selected cases cautery and surgery may be used to advantage.

While the medical society was in session the wives of physicians met in another part of the General Hospital, where a Woman's Auxiliary to the county medical society was organized. The following officers were elected: Mrs. F. A. Hamlin, president; Mrs. F. J. Gundry, first vice-president; Mrs. A. R. Moodie, second vice-president; Mrs. C. S. Compton, secretary-treasurer.

In the future the Woman's Auxiliary will have a monthly meeting in conjunction with the regular meeting of the Kern County Medical Society.

E. A. SCHAPER, *Secretary.*

SACRAMENTO COUNTY

The Sacramento Society for Medical Improvement met at the Senator Hotel on November 19, and were called to order by Doctor Pope at 8:40 p. m.

The minutes of the previous meeting were read and approved.

Dr. W. A. Beattie reported a case. This was a case of dysentery in an infant six and one-half months of age. The child was in the third week of sickness and was given carbohydrates by mouth, colonic flushes and saline solution by hypodermoclysis. After two days the patient refused food, and a generalized edema resulted. Râles were heard in the chest. A catheterized specimen of urine showed many hyaline casts. The saline was discontinued and the edema began to clear, and within forty-eight hours after the discontinuing of the saline the urine had cleared of casts.

The paper for the evening, "Acute Perinephritic Abscess," was presented by Dr. G. Rhodes of San Francisco.

Doctor Rhodes had recorded and studied a list of over thirty cases and based his findings on these cases. In almost all of these cases the patient gave a history of a previous skin infection, such as boils or carbuncles, and no previous history of a kidney infection. In children the secondary infection usually localizes in the bone marrow while in adults the common site is a perinephritic abscess.

Showers of organisms are squeezed out of the original focus and these lodge in the perinephritic fat. The fat has a poor circulation and the arteries here are end arteries, being branches of the renal arteries. Rupture of renal abscesses may likewise cause the same. It is not due to the lymphatics.

The staphylococcus is the causative organism. It forms clumps and more easily blocks the arteries. Streptococcus is rare.

In children it is hard to diagnose. Lassitude occurs and they run a septic course. In adults the course

may be slower and they may have tenderness over the appendix. Acute symptoms come on suddenly. A severe pain usually occurs over the kidney region. They may have general infection symptoms, or it may be referred to the hip.

The polymorphonuclear count is high. Cystoscopic examination is negative, and x-ray is the first positive evidence. This is due to an obliteration of the lateral border of the psoas muscle. X-ray at the early onset shows a shadow and the shadow then is lost. The persistent obscuring of the shadow is the best diagnostic factor. A scoliosis of the lumbar vertebrae away from the abscess may occur.

The paper was discussed by Doctors Hale, Beach, Rulison and Lee, and was well illustrated with lantern slides.

A communication from the Eastman Kodak Company, in regard to films for teaching, was read.

There being no further business the meeting adjourned.

HANS F. SCHLUTER, *Secretary.*

✲

SAN BERNARDINO COUNTY

Minutes of the regular meeting of the San Bernardino County Medical Society held at the San Bernardino County Hospital on December 3.

The meeting was called to order by Dr. A. T. Gage, first vice-president, in the absence of the president.

The minutes of the previous meeting were read and approved.

There being no business to attend to, the following program of the evening was immediately begun:

The Injection of Varicose Veins with Sclerosing Solutions, and illustrated by motion pictures, was the subject of the first paper by Dr. Thomas O. Burger and Dr. Harold G. Holder, San Diego. Discussion opened by Dr. C. G. Hilliard.

Circulatory Disturbances of the Extremities was presented by Dr. Joseph K. Swindt, Pomona. Discussion opened by Dr. Philip Savage.

Luncheon was served at 10:30 o'clock, seventy-five members being present.

While the regular medical meeting was in progress the formation of a Woman's Auxiliary to the California Medical Association was going on in the nurses' home.

✲

SAN DIEGO COUNTY

In honor of Admiral Stitt and Captain Carpenter the combined organizations of the San Diego County Medical Society and the Naval Hospital met at the Naval Hospital on the evening of November 12. The speaker of the evening was Dr. Carl Rand, neurological surgeon of Los Angeles, who talked on the diagnosis of brain tumors. Doctor Rand's discourse was very interesting and helpful, particularly to the general practitioner. He pointed out that many cases of brain tumor went undiagnosed until curative treatment was impossible, and therefore an especial burden lay upon the general practitioner who first saw these patients. The more outstanding features in the history and physical examination were stressed with an outline of the more important diagnostic measures. The more technical features, particularly of operative treatment, were outlined. After the meeting, light refreshments and a social time were enjoyed.

On November 5 and 6, Dr. Thomas Addis, professor of medicine at the Stanford University Medical School, addressed the San Diego Academy of Medicine on the diagnosis and treatment of Bright's diseases. The special clinical methods developed by Doctor Addis during the past fifteen years, and which are now widely used both in this country and abroad as a basis for diagnosis and prognosis in this group of diseases, were described. The second lecture was preceded by a short clinic in which patients representing the major forms of Bright's disease were presented and served as a basis for a general consideration of each type. Doctor Addis is at the present time the president of the American Society for Clinical Investigation. The following officers were elected for the San Diego Academy of Medicine for 1930: A. E. Elliott, president; William E. Sisson, vice-president; C. O. Tanner, treasurer; William W. Belford, secretary.

The following officers were elected for the San Diego County Medical Society for the year 1930: C. M. Fox, president; F. H. Carter, vice-president; W. H. Geistweit, Jr., secretary; William W. Belford, treasurer. Councilors: W. F. McColl, L. C. McAmis, and W. O. Weiskotten. Delegates: F. L. Macpherson and T. O. Burger (two-year term); C. E. Rees and B. J. O'Neill (one-year term). Alternates: A. J. Thornton, G. B. Worthington, and L. W. Zochert (two-year term); E. S. Coburn (one-year term).

Doctors T. Coe Little, A. J. Thornton, J. G. Omelvena, O. G. Marsh, E. S. Coburn, George B. Worthington, L. W. Zochert, and Mr. W. C. Crandall attended the excellent program of the Southern California Medical Association at Los Angeles, November 8 and 9. L. W. Zochert has joined the ranks of the "air-minded," and flies back and forth to northern conventions.

Henry A. Christian, professor of medicine of Harvard Medical School, will give a lecture on January 25 at the Scripps Clinic. The doctor will choose his own subject.

ROBERT POLLOCK.

✲

SAN JOAQUIN COUNTY

The annual meeting of the San Joaquin County Medical Society was held at the banquet table in the dining room of the Stockton Country Club, December 5, at 7 p. m.

Twenty-nine members and five visitors were present: Doctors R. Flarity, R. A. Hunt and H. O. Tucker, guests of Dr. Barton J. Powell; T. L. Sutton of Stockton; and Langley Porter, dean of the University of California Medical School, guest and speaker of the evening.

The members present were: Doctors N. P. Barbour, J. W. Barnes, J. F. Blinn, R. A. Buchanan, C. A. Broaddus, H. S. Chapman, Fred J. Conzelmann, J. T. Davison, J. F. Doughty, Linwood Dozier, F. T. Foard, P. B. Gallegos, S. Hanson, C. V. Holliger, J. P. Hull, H. E. Kaplan, R. V. Looser, F. S. Marnell, R. T. McGurk, T. C. O'Connor, F. J. O'Donnell, H. C. Peterson, B. J. Powell, D. R. Powell, G. H. Rohrbacher, F. B. Sheldon, J. J. Sippy, H. Smythe, and C. V. Thompson.

Before being seated at the banquet table the members bowed their heads in a momentary silence in memory of our departed colleagues, Doctors C. L. Six, J. E. Oliver, and F. P. Clark.

The annual meeting was called to order at 8:30 p. m. by C. V. Thompson, president presiding.

The minutes of the previous meeting were read and approved. The secretary-treasurer read his annual report, which was approved and ordered filed.

The chairman called for the report of the tellers which read as follows:

H. E. Kaplan, president; G. H. Rohrbacher, first vice-president; F. T. Foard, second vice-president; C. A. Broaddus, secretary-treasurer.

Board of Directors—Drs. C. A. Broaddus, H. S. Chapman, C. F. English, R. T. McGurk, H. E. Kaplan, D. R. Powell, J. J. Sippy, Hudson Smythe, C. V. Thompson.

Admission Committee—F. J. Conzelmann, chairman; J. F. Blinn, H. J. Bolinger, B. J. Powell, Hudson Smythe.

Ethics Committee—J. W. Barnes, chairman; H. S. Chapman, C. F. English, D. R. Powell, Margaret H. Smyth.

Finance Committee—J. V. Craviotto, chairman; J. D. Dameron, D. R. Powell.

Program Committee—G. H. Sanderson, chairman; P. B. Gallegos, G. H. Rohrbacher.

State Delegates—J. W. Barnes, B. J. Powell.

Alternates—R. T. McGurk, C. V. Thompson.

The chair presented Dr. Langley Porter, dean of the University of California Medical School, who gave an interesting and practical talk on Greek medicine, illustrated by lantern slides.

FRED J. CONZELMANN, *Secretary.*

✲

SAN MATEO COUNTY

The regular meeting of the San Mateo County Medical Society was held at the Oak Tree Inn in San Mateo on the evening of November 20.

Following dinner and a social hour, Dr. A. C. Reed of San Francisco gave an exceedingly interesting lecture, illustrated by slides compiled while on a research trip in the tropics in the interests of tropical medicine. Much of interest was learned concerning not only the medical status of these countries, but also their customs and culture.

In a short business session following, it was decided to concentrate the efforts of the society on obtaining an isolation hospital in this county at the Community Hospital at Beresford.

Dr. A. Gerlach, resident physician at the Community Hospital, was admitted as a new member to the society.

The next meeting will be a joint meeting with the Santa Clara County Medical Society, to be held December 18, in San Mateo, the place to be announced at a later date.

ERMA B. MACOMBER.

✲

SANTA BARBARA COUNTY

The regular meeting of the Santa Barbara County Medical Society was held at the St. Francis Hospital on Monday evening, December 9.

The meeting was called to order at 8:30 o'clock by President Brush.

The minutes of the previous meeting were read and approved.

As the annual meeting is to be held Monday evening, January 13, 1930, the president appointed the following committees:

Scientific Program—Dr. Ullmann, chairman; Dr. Robinson and Dr. Atsatt.

Supper—Dr. P. C. Means, chairman.

Entertainment—Dr. Irving Wills, chairman.

It was the unanimous decision of the members present that the annual meeting be held at the University Club.

It was moved, seconded and carried that the program and entertainment committees draw from the treasury sufficient funds to cover any nominal expenses.

The scientific program was opened by a paper by Dr. Rexwald Brown on "Indication for Hysterectomy in a Fibroid Uterus." This paper was discussed by Doctors Ullmann, Robinson, Eder, Sansum, Geyman, Shelton, and Schurmeier.

Doctor Henderson then gave a paper on "Myelogenous Leukemia," with a report of a case. This was discussed by Doctors Ullmann and Brush.

There being no further business the meeting adjourned.

WILLIAM H. EATON, *Secretary.*

✲

SANTA CRUZ COUNTY

The November meeting was held November 21 at the Hotel Reseter, Watsonville. Following a very enjoyable dinner, President Fehliman called the meeting to order and the routine business was attended to. The application for membership of Dr. F. P. Shenk, who recently came to Santa Cruz as an eye, ear, nose, and throat specialist, was read and referred to the board of censors. Election of officers for 1930 resulted as follows: M. F. Bettencourt of Watsonville, president; J. C. Farmer of Felton, first vice-resident; O. C. Marshall of Watsonville, second vice-president; S. B. Randall of Santa Cruz, secretary-treasurer. Censors: P. T. Phillips, W. G. Hatch, and E. Eiskamp. Delegate: L. Liles of Watsonville. Alternate: P. T. Phillips of Santa Cruz.

Dr. J. Lumford of Oakland was the guest speaker of the evening and presented a very commendable illustrated discussion of the subject of "Ringworm of the Feet." Diagnosis, treatment, and prophylaxis were considered and discussed by those present. The wide distribution of this type of fungus infection and the difficulties encountered in its eradication added to the importance of Doctor Lumford's paper.

The following were present: Visitors—Dr. Tipton of Watsonville, Dr. F. P. Shenk of Santa Cruz, and Dr. Lumford of Oakland. Members: Bettencourt, Congdon, Farmer, Fehliman, Gaynor, Harrington, Marshall, Nittler, P. T. Phillips, A. L. Phillips, and Randall.

SAMUEL B. RANDALL, *Secretary.*

✲

SONOMA COUNTY

The Sonoma County Medical Society held its last meeting of the year on December 12 at the Petaluma Hotel, Petaluma. The meeting was well attended to hear Dr. Dudley Smith speak on rectal diseases. His subject was covered very ably, especially from the practical side, which was very greatly appreciated by the society.

Dr. J. H. Wright and Dr. B. L. Baldwin, both of Healdsburg, were elected to membership.

The following officers were elected for the ensuing year: President, Chester Marsh of Sebastopol; vice-president, A. Morse Bowles of Santa Rosa; secretary, J. Leslie Spear of Santa Rosa; treasurer, T. Hubert Reiss of Santa Rosa; censor, W. C. Shipley of Santa Rosa; delegate, J. Walter Seawell of Healdsburg; alternate, Stuart Z. Peoples of Petaluma.

J. LESLIE SPEAR, *Secretary.*

✲

TULARE COUNTY

The regular meeting of the Tulare County Medical Society was held at Motley's Café in Visalia. Sixteen persons were present for the dinner at 6:30 o'clock, and a few arrived later.

Members present were: Doctors Annie Bond, E. C. Bond, Lipson, Rivin, Fowler, Furness, Zumwalt, Seligman, Tourtillott, Preston, Campbell, Ginsburg, Rosson, and Kohn.

The meeting was called to order at 7:30 o'clock by President Furness.

The minutes of the last meeting were read and approved.

The following officers were elected for the coming year: H. G. Campbell, president; Ray Rosson, vice-president; S. S. Ginsburg, secretary-treasurer; Gilbert Furness, delegate; H. G. Campbell, alternate; D. L. Seligman, censor.

Dr. William B. Faulkner of San Francisco was present and gave us a talk on surgery of the chest. The talk was illustrated with lantern slides, and was especially valuable from the standpoint of diagnosis and bronchoscopy. It was moved that a vote of thanks be given Doctor Faulkner for his excellent talk and the trouble he took to come down and address us.

A short discussion followed, and the meeting adjourned at 9:40 o'clock.

HORACE G. CAMPBELL, *Secretary.*

CHANGES IN MEMBERSHIP

New Members

Alameda County—John Joseph Carden, Herbert C. Bolstad.

Monterey County—Lavelle P. Davlin, Roy M. Fortier.

Sacramento—Louis Charles Barrette, Irene Knox Mugford, Wayne Evans Pollock, Dorothy Walsh Schallig.

San Bernardino County—Darrell E. Hayhurst.

San Diego County—Sheridan A. Lockwood, Stephen A. Parowski.

San Francisco County—Harry H. Jacob.

Transferred Members

Orville Rockwell, from San Francisco to Napa County.

Elisabeth McVeen Saphro, from Los Angeles to Monterey County.

H. Spencer Hoyt, from Los Angeles to Monterey County.

Deaths

Aikin, Ilo Rafenel. Died at Oakland, December 10, 1929, age 53 years. Graduate of Hahnemann Medical College of the Pacific, San Francisco, 1898. Licensed in California, 1898. Doctor Aikin was a member of the Alameda County Medical Society, the California Medical Association, and the American Medical Association.

Berndt, Richard M. H. Died at San Francisco, November 16, 1929, age 73 years. Graduate of the University of California Medical School, 1893. Licensed in California, 1894. Doctor Berndt was a member of the San Francisco County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Bullock, Newell Harris. Died at San Francisco, November 13, 1929, age 56 years. Graduate of Rush Medical College, Illinois, 1908. Licensed in California, 1908. Doctor Bullock was a member of the Santa Clara County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Miller, Ulysses Grant. Died at Los Angeles, November 27, 1929, age 61 years. Graduate of Marion-Sims College of Medicine, Missouri, 1891. Licensed in California, 1904. Doctor Miller was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

Mott, George Hervey. Died at Pacific Grove, December 1929, age 64 years. Graduate of Western Reserve University School of Medicine, Cleveland, 1888. Licensed in California, 1926. Doctor Mott was a member of the Monterey County Medical Society, the California Medical Association, and the American Medical Association.

Reynolds, Clyde G. Died at Hilt, December 6, 1929, age 33 years. Graduate of University of Nebraska College of Medicine, Omaha, 1924. Licensed in California, 1925. Doctor Reynolds was a member of the Siskiyou County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Simpson, Frank William. Died at Hayward, December 8, 1929, age 53 years. Graduate of University of California Medical School, 1900. Licensed in California, 1900. Doctor Simpson was a member of the Alameda County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Zbinden, David Burdett. Died at Alhambra, November 20, 1929, age 40 years. Graduate of Vanderbilt University School of Medicine, Nashville, Tennessee, 1913. Licensed in California, 1917. Doctor Zbinden was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

THE WOMAN'S AUXILIARY TO THE CALIFORNIA MEDICAL ASSOCIATION

OFFICIAL NOTICE

The Woman's Auxiliary of the California Medical Association is happy to call to your attention the editorial on page 351 of the November CALIFORNIA AND WESTERN MEDICINE, regarding their organization, and request that if you have not already done so that you appoint a committee on organization as suggested in the article.

May I ask that you keep me informed as to the result, and send me the names of one or two women from your county who will probably be active in the formation of the unit, as I hope to have material from the national organization for their use.

The southern counties are responding with enthusiasm, and I hope the North will soon be as active. As you know, the object of the Auxiliary is to be all that its name implies—an aid—a reserve force—an auxiliary! Organized for the purpose of responding to any call from the medical profession. To promote dependable health education, instead of leaving it to those who are interested in spreading cult propaganda. Every physician's wife should feel it a privilege to have a part in this work.

May we have your hearty coöperation?

JEAN ROGERS, *President.*

Petaluma, Sonoma County.

A COUNTY AUXILIARY'S WORK *

The Woman's Auxiliary to the American Medical Association is an organization composed of the combined membership of the state auxiliaries, which in turn are made up of auxiliaries to county medical societies.

The first auxiliary was formed in 1917 at Dallas, Texas. Out of that grew similar organizations all over the state. In 1919 a state auxiliary was organized in San Antonio, Texas.

Other states became interested in the work and in St. Louis, 1922, during the meeting of the American Medical Association, the matter of forming a national auxiliary was presented to the House of Delegates. It was endorsed by that body and the Woman's Auxiliary to the American Medical Association was organized, with nine states enrolled.

It is now in its fourth year of national activity, having twenty-seven states already organized, with others in the process of organization—more than half the states in the Union!

Where there is a county medical society there should be an auxiliary. It has been uniformly noted that there is more interest and enthusiasm, and a greater spirit of comradeship among the members of the county medical society if there is an active auxiliary working in the community.

The National Auxiliary does not attempt to dictate, but desires to coöperate with all auxiliaries in carrying out their work.

* * *

The object of the Woman's Auxiliary to the American Medical Association is to be all that its name implies—an aid, a reserve force—an auxiliary! Organized for the purpose of responding to any call from the medical profession.

To do all the work assigned to it from time to time by the American Medical Association.

To promote closer social contact between the families of physicians.

To assist in lightening the burdens of humanity.

To help preserve the health of the people.

The members of the Woman's Auxiliaries to the American Medical Association are those who have

* Abstract of a leaflet printed by the National Auxiliary, and here presented for the information of newly organized county auxiliaries of California.

paid their annual dues to the national organization through their county and state auxiliary.

Where there is no local auxiliary a physician's wife may become a member-at-large by paying annual dues of $2. Wives of the members of the Medical Corps of the Army, the Navy, and the Public Health Service are especially invited to become members-at-large, if it is impossible for them to have county affiliations.

Each state sends its auxiliary president and president-elect, two delegates and their alternates to represent it at the annual session which meets at the same time as the American Medical Association.

Every phase of the work is first passed upon by the executive board, which meets just before the annual session. After the election of officers, the new executive board is called together to hear the plans outlined by the incoming president.

Another called meeting is usually held in the fall before the activities begin. Matters of immediate importance should be referred to the president and members of the Liaison Committee. This committee is appointed by the trustees of the American Medical Association.

* * *

For this year the National Auxiliary board has accepted the following recommendations from the president:

To organize auxiliaries in unorganized states and to urge all state presidents to form auxiliaries wherever there is a county medical society.

To outline health programs approved by the Liaison Committee to be presented before other organizations.

To secure, if possible, moving pictures to illustrate the importance of the annual physical examinations by the family physician. Each member of every household, servants included, should be examined.

To recommend to all clubs that they place capable physicians' wives in charge of club health departments in order to secure authoritative programs.

To assist in providing health talks over the radio by prominent physicians and health officers. These speakers should be appointed by the County Medical Society.

* * *

In order that the greatest possible good shall be accomplished it is necessary that the Woman's Auxiliary to the American Medical Association have the full coöperation of all the members of the American Medical Association and their wives. It is the earnest endeavor of the Auxiliary to bring its work to the attention of all who are interested in the welfare of our people.

Every physician's wife should feel it a privilege as well as her duty to promote dependable health education, not leaving it in the hands of those who are interested in spreading the propaganda of various cults.

She can aid materially in the auxiliary's effort to impress upon all club members a proper conception of the real mission of organized medicine, especially in its crusade of preventive medicine.

She may gain much from her club activities, but she can give even more to her club coöperating with the auxiliary in its health education program.

A woman forfeits none of her own happiness nor her family's when she lends her time and influence beyond the confines of her own household. Her power is made greater and her outlook on life clearer by her contact with other women.

* * *

Activities

The work of county auxiliaries may be divided into three groups—social, philanthropic, and educational.

Auxiliaries should meet each month from October to June, making reports and recommendations.

In addition to the reports of the committees, a paper may be read or a speaker provided to address the members on subjects of particular interest to them.

A social hour may follow with light refreshments.

I. Social Group

This group may be divided into the following committees: Membership, Telephone, Courtesy, and Entertainment.

The Membership Committee keeps the members active in securing new members. This committee visits the wives of members of the County Medical Society, enlisting interest in the local work.

The Telephone Committee divides the membership, each taking an equal number of names; it is their duty to telephone each member at least one week in advance to remind them of the time and place of meeting, and to ascertain how many can attend. The lists of acceptances are turned over to the chairman of the entertainment so that she may know for how many to provide. The chairman of the Telephone Committee informs the members of the Executive Board of their meetings.

When the medical society wishes some prompt service from the auxiliary, the Telephone Committee can get the information to the entire membership within a few hours.

The Courtesy Committee calls upon the wives of physicians soon after they become members of the County Medical Society.

If a member is ill or bereaved, this committee lends its sympathy and service. Visits are made also when out-of-town physicians' families are ill in local hospitals. Courtesies are extended to wives of physicians while they are visiting in the city.

The Entertainment Committee may select the place of meeting, appoint hostesses for the season, and provide refreshments, except when an individual member wants to entertain. Each member may be assessed her pro rata for the entertainments, or it may be added to the dues for the year. The refreshments should be light and within the means of all the members.

The first meeting of the season may be an afternoon tea given in honor of the officers. The president makes a short talk and announces committees which she has appointed to carry out the plans for the year.

Near the holiday season an evening affair may be given in honor of the president and officers of the County Medical Society.

The last meeting of the season may be an afternoon program given in honor of the mothers of the physicians.

The annual reports and election of officers may come before the program.

II. Philanthropic Group

This group is divided into as many committees as are necessary to carry on the work as outlined by each individual auxiliary.

It is recommended not to undertake too much at first, but to increase the activities as the interest grows. There is always more to be done than there are funds available with which to "carry on." Each auxiliary selects the greatest need of its community and undertakes to make its influence felt by coöperating in every possible way with charitable enterprises of the city.

Committees and subcommittees undertake the following:

To visit all the charity wards of the hospitals, taking fruits, flowers, etc.

Books and toys are taken to the Children's Hospitals, and a story hour provided for the convalescents.

Layettes are made for needy mothers.

Showers of linen and clothing are given for the Baby Hospitals.

Surgical dressings and aprons made for doctors and nurses in their charity work.

Gowns and bedjackets for Tuberculosis Hospitals.

Visits are made to Institutions for the Aged, furnishing them with diversion and entertainment.

Soldiers, old and young, are provided with games, radios, victrolas, edibles, automobile rides, Christmas trees, etc.

A milk fund is provided for undernourished school children.

Healthful school lunches prepared and served to school children at minimum cost.

First-aid tents furnished Boy Scouts, rest tents for Salvation Army camps.

Stockings filled and sent to Empty Stocking Crusade, Christmas boxes furnished Red Cross for distribution.

Loans to needy physicians' families.

III. Educational Group

This group consists of two important committees—Educational and Program—and as many subcommittees as are needed to carry on the work.

The Program Committee selects the subjects to be discussed at each meeting and provides the speakers.

This group prepares a tribute to the members who die during the year, which is read at the last meeting of the season.

Outline campaigns for securing birth registrations.

Coöperate with Chambers of Commerce and their health programs.

Furnish reports each month of current events in medical progress.

Interest boys and girls in giving health plays in schools.

Coöperate with health officers in their work, especially in rural districts.

Furnish good speakers to go before clubs to present health programs with moving-picture illustrations.

Create sentiment for county health units.

Assist legislative committees of County Medical Societies, when needed, in promoting good health measures—but carefully avoiding participation in any kind of politics whatsoever, except upon the recommendations of the local county or state medical organization or the Liaison Committee to the auxiliary.

The Health Education Committee makes a study of the subject to be discussed throughout the year.

Health laws pertaining to county and state.

What constitutes pure milk and water.

Food and sanitation.

Midwife problems.

History of medicines.

Lives of great physicians.

History of American Medical Association, California Medical Association, etc.

Offer scholarships to sons and daughters of physicians.

Gives prizes for the best:

Essay on health.

Physical test of school children.

Sanitary school buildings.

Best drilled R. O. T. C.

Boy Scout who makes best physical record.

Cleanest block in city.

KERN COUNTY

At the request of the state medical society, the wives of the members of the Kern County Medical Society met in the library of the Kern General Hospital at 8 o'clock, Thursday, November 21, to form an auxiliary to the men's organization. Those present were: Mesdames F. A. Hamlin, F. G. Gundry, C. H. Fox, W. H. Moore, C. S. Compton, G. E. Bahrenburg, K. S. McKee, R. M. Jones, A. E. Schaper of Keene, A. R. Moody and Johnston of Taft.

Mrs. F. A. Hamlin, acting as temporary chairman, read the constitution and by-laws of the Auxiliary, explaining its purpose. The following officers were then unanimously elected to serve for the ensuing year: Mrs. F. A. Hamlin, president; Mrs. F. G. Gundry, first vice-president; Mrs. A. R. Moody of Taft, second vice-president; Mrs. C. S. Compton, secretary-treasurer.

The constitution and by-laws were then formally adopted, and it was agreed to meet on the third Thursday of every month at the County Hospital. It was decided to serve light refreshments and have some entertainment each meeting, with the idea of becoming better acquainted. Mrs. F. A. Hamlin, Mrs. G. E. Bahrenburg, andMrs. R. M. Jones were appointed as a committee for the first meeting.

Meeting was adjourned.

EDNA C. COMPTON, *Secretary.*

✲

LOS ANGELES COUNTY

Formation of Woman's Auxiliary of the California Medical Association.—A committee composed of Mrs. James F. Percy (chairman), Mrs. Walter P. Bliss, and Mrs. George G. Hunter called a meeting of the wives, daughters, sisters, and widows of physicians in good standing in the Los Angeles County Medical Association on December 27, 1929, to form a Woman's Auxiliary to the Los Angeles County Medical Association.

✲

SAN BERNARDINO COUNTY

Minutes of the meeting of the Woman's Auxiliary to the California Medical Association which met in San Bernardino on December 3.

The wives of the doctors of the San Bernardino County Medical Society were invited to attend a meeting at the nurses' home of the County Hospital, December 3, at 8 p. m.

Mrs. A. L. Weber of Upland, one of the committee appointed by the councilors of the San Bernardino County Medical Society, was in the chair and called the meeting to order.

Letters from Dr. Emma Pope and Mrs. Jean Rogers, explaining the purpose of the meeting were read, also the constitution of the Woman's Auxiliary of the California Medical Association.

Discussions and explanations followed.

Mrs. Frank H. Pritchard of Colton then moved we form an auxiliary to the San Bernardino County Medical Society and adopt the constitution of the Auxiliary of the California Medical Association.

Mrs. Cherry of Rialto seconded the motion. The chairman put the question, and the motion was unanimously carried.

The chairman proceeded with the election of officers. Mrs. F. E. Clough was nominated for president. Nomination seconded and was unanimously elected.

Mrs. Weber then invited Mrs. Clough to take the chair. Mrs. Clough continued with the election, and the following officers were unanimously elected: Mrs. Walter Pritchard of Colton, first vice-president; Mrs. A. L. Weber of Upland, second vice-president; Mrs. C. L. Curtiss of Redlands, secretary-treasurer.

Mrs. Mulvane, superintendent of nurses of the County Hospital, offered the nurses' home for either social or business meeting any time it was needed.

Fifteen out of the seventeen women present joined the new society.

Letters from Mrs. W. E. Macpherson and Mrs. O. I. Cutler of Loma Linda, expressing their regrets that they could not be present at our first meeting but hoped to be at later ones, were read by the secretary.

Nominations for delegates to the state meeting were then in order. Mrs. Frank Pritchard nominated all of the officers. Mrs. Emmons made an amendment to the motion that the board of directors designate

which ones should be delegates and alternates. This motion was seconded, voted and carried.

Mrs. Walter Pritchard then made a motion that tentative dues be set at $1. Seconded and carried.

Motion was made by Mrs. Walter Pritchard that a meeting be held the first Tuesday in March, 1930 at the San Bernardino County nurses' home. Motion was seconded and carried.

Next motion made was that the first and second vice-presidents, with the board of directors, be responsible for a social meeting, this meeting and the next business meeting.

Meeting was then adjourned by motion from the floor.

MRS. ETHEL E. CURTISS, *Secretary.*

NEVADA STATE MEDICAL ASSOCIATION

W. A. SHAW.....President
R. P. ROANTREE, Elko.....President-Elect
H. W. SAWYER, Fallon.....First Vice-President
E. E. HAMER, Carson City.....Second Vice-President
HORACE J. BROWN.....Secretary-Treasurer
R. P. ROANTREE, D. A. TURNER, S. K. MORRISON.....Trustees

COMPONENT COUNTY SOCIETIES

WASHOE COUNTY

The Washoe County Medical Society met on Tuesday evening, November 12, at the City Hall, Reno. Dr. J. L. Robinson, president, in the chair.

Applications of three new members were endorsed by the board of censors, and the secretary was ordered to notify the same.

The scientific program for the night was a symposium on pneumonia. Owing to the absence of three of the essayists, the program was considerably incomplete. However, Doctor Lane, whose part was the obtaining of the pneumonia record of the state for the past ten years, gave as complete a report as was possible. There seems to be a decided carelessness or an evasion by the physicians regarding the reporting of reportable cases as listed by the state secretary. Records are so incomplete as to be practically worthless. Doctor Lane had made a most worthy effort by going to Carson and conferring there with Doctor Hamer, but the records obtainable were far from complete. We hope that the physicians of the state will coöperate with Doctor Hamer in his insistent effort to have the proper reports come in as requested.

Dr. M. A. Robinson, one of the state's veteran physicians and anesthetists, gave an elaborate résumé on the subject of postoperative pneumonia, which was of considerable interest in view of the fact that the profession is now fully aware that the selection of an anesthetist is about as necessary as the selection of the surgeon. Doctor Robinson will elaborate the paper for a future occasion.

The closing meeting of the year will be held, place yet to be announced, on the evening of December 10. The speaker will be Dr. George R. Smith, superintendent of the Nevada State Hospital. Doctor Smith will speak on the conditions of the insane of the state. We bespeak a good attendance and good time.

There being no further business the meeting adjourned.

* * *

The last meeting of the year for the Washoe County Medical Society was held at Hutton's Hut, on the outskirts of Reno, on Tuesday evening, December 10.

This meeting being President's night, the retiring president, Dr. J. L. Robinson, reserved the hut for the occasion and the genial host served those present with a bounteous turkey dinner. Music and refreshments made the twenty-five men present a happy congenial company. Owing to the previously inclement weather, the secretary received a number of regrets from many who could not attend.

Two new names for membership were read and referred to the board of censors. The present membership is fifty-two. There are several prospects in sight for a bigger and more active membership. In the secretary's letter announcing the meeting, it was suggested and thought advisable that the society reach out to all surrounding towns where a medical society does not exist and invite these unaffiliated county men to join the Washoe County Society. If they cannot attend the meeting during the inclement seasons of the year, their membership and discussion when they are able to be present will be mutually helpful.

After the dinner was served, Doctor Robinson, who has done splendid work during the year in investigating conditions in California, with reference to the necessity of Washoe County having a community hospital, read a concise, fact-bearing paper, setting forth many substantial arguments as to the present-day needs of such a hospital. In summarizing the future growth of Reno, with its great outlying territory, he dwelt upon the past substantial growth of Reno, showed how it was a center for railroad, airway, and automobile travel. The fact that with our tourist travel for the past summer, the hotels could not take care of the tourist patronage, that new enterprises were under contemplation, new hotels to be constructed on Lake Tahoe, that the Lassen Park project was under way, and because of many other business enterprises, Doctor Robinson showed that to keep pace with the growing need for community hospitalization we should bestir ourselves, as a united profession, to secure the final approval of thirty per cent of the taxpayers to sign up for a community hospital at the fall election of 1930. With this done, the people of Washoe County could establish a hospital similar in function to the great Los Angeles hospital now about completed and the beautiful Highland Hospital in Oakland. Public hospitalization—not of the old-fashioned type for paupers—is the coming thing of the future, and, as Doctor Robinson well stated, community hospitalization is a demand to be considered in exactly the same class as community schools and community police protection. It is the coming thing whereby any citizen can, if he so elects, choose the benefit of medical and surgical attendance from the community in which he has lived and helped to build up. A community hospital will solve the question of the public of today, wherein it is so frequently said that but two classes of people can receive good medical and surgical care, namely, the indigent and the millionaire. This type of a hospital will relieve people of moderate means of painful embarrassment, and when they are unfortunate in being ill they can, with this new form of extended aid, avail themselves of the benefits of a community hospital at such prices as they can afford to pay.

Doctor Robinson's paper had the earmarks of well digested thought, facts summarized and presented in a forcible manner, and was well received.

Dr. George H. Smith, superintendent of the Nevada State Hospital for the Insane, followed with a splendid paper giving a résumé of the conditions of the insane population of Nevada. For lack of space, we cannot enlarge upon this excellent presentation, except to say that those not present missed a good thing.

The election of officers for the ensuing year resulted in the election of Dr E. E. Hamer, secretary of the Nevada State Board of Health, as president; Dr. E. L. Creveling, vice-president; Dr. Thomas W. Bath, secretary-treasurer.

A brief report of the financial condition of the society, with a résumé of the active work and splendid coöperation of the members was given by the secretary.

The meeting adjourned, with happy felicitations and expressions of a most cordial professional feeling.

THOMAS W. BATH, *Secretary.*

UTAH STATE MEDICAL ASSOCIATION

H. P. KIRTLEY, Salt Lake City.....President
WILLIAM L. RICH, Salt Lake City.....President-Elect
M. M. CRITCHLOW, Salt Lake City.....Secretary
J. U. GIESY, 701 Medical Arts Building, Salt Lake City.....Associate Editor for Utah

COMPONENT COUNTY SOCIETIES

SALT LAKE COUNTY

The regular meeting of the Salt Lake County Medical Society was held at the Newhouse Hotel, Salt Lake City, Monday, November 25, at 8 p. m.

The meeting was called to order at 8:03 o'clock by President C. M. Benedict. Forty-five members and six visitors were present.

The minutes of the previous two meetings were read and accepted without correction.

The following clinical program was presented by the members of the medical department of the University of Utah, under the supervision of B. I. Burns:

Experiments with the Female Sex Hormone—G. C. Arvin.

The Nervous Mechanism of Angina Pectoris—Donald Duncan.

Report on Parathormone in Menstrual Bleeding—H. C. Goldthorpe.

Effect of Hormones on the Sympathetic Nervous System—R. M. Tandowsky.

Pathological Embryology—Orin Ogilvie.

Bovine Skin Tuberculosis—L. L. Daines.

* * *

The following resolution of regret was presented by the Necrology Committee, J. U. Giesy, chairman:

In Memoriam—George L. Smart

Whereas, Our fellow member, Dr. George L. Smart, has been called upon to answer that summons to which we, one and all, must in due course respond; and

Whereas, We his comrades shall miss him from our ranks with feelings of deep regret; therefore be it

Resolved, That we of the Salt Lake County Medical Society take this means of formally expressing our sympathy to his relatives in their bereavement, so necessarily coupled with our own sense of loss; that a copy of this resolution be spread upon the minutes of our organization, and a copy sent to the immediate family of the deceased.

* * *

The following report of the board of censors upon the letter of B. I. Burns, regarding forming an associate membership for members of the medical department of the University of Utah who are not physicians, was read by William F. Beer:

"The committee unanimously recommends that the society change the constitution and by-laws so that members of the medical department of the University of Utah who are not physicians may be accepted as associate members by the Salt Lake County Medical Society."

E. F. Root moved that the report be accepted. Seconded and carried.

S. G. Kahn moved that the board of censors be asked to frame a change in the Constitution and By-Laws of the Salt Lake County Medical Society to show that an associate membership is permissible. Seconded and carried.

A communication from the Salt Lake County Commissioners was read asking that the society members examine old-age pension applicants free of charge. L. J. Paul moved that the secretary instruct the Salt Lake County Commissioners that it has always been the policy of the society to render aid in any worthwhile charitable cause, and that it would do so in the present instance. Seconded and carried.

The applications for membership of E. F. Wight and F. W. Schaffer were read. T. A. Clawson, Jr., a transfer from the Olmstead County Medical Society, and George W. Buchanon were unanimously elected members of the society.

The meeting was adjourned at 10:15 o'clock.

* * *

The regular semiannual business meeting of the Salt Lake County Medical Society was held at the Newhouse Hotel, Salt Lake City, Monday, December 9, at 8 p. m.

The meeting was called to order at 8:05 o'clock by President C. M. Benedict. Eighty members were present.

The minutes of the previous meeting were read and accepted without correction.

G. H. Pace spoke briefly about the need of a psychopathic ward in the County Hospital, and stated that the county commissioners were willing to create such a department if the medical profession so desired. M. M. Nielson moved that the society go on record as being in favor of the psychopathic ward to be built at the Salt Lake County Hospital, and suggested that the county commissioners be notified to this effect.

G. G. Richards read a communication from President Thayer of the American Medical Association regarding a memorial to Professor Widal. B. Rees suggested that this should be an individual contribution, and F. Stauffer moved that the chair appoint a committee of three to solicit funds for the Widal Memorial, with G. Richards as chairman. Seconded and carried. The following committee was appointed by President Benedict: G. Richards, chairman; W. R. Tyndale and W. G. Schulte.

B. E. Bonar read the secretary's report. W. F. Beer moved that the report be accepted and filed. Motion seconded and carried.

Clark Young read the report of the treasurer. W. H. Rothwell moved that the report be accepted and filed. Seconded and carried.

C. M. Benedict reported for the Program Committee. F. M. McHugh moved that the report be accepted and filed. Motion seconded and carried.

A. C. Callister gave a verbal report for the Committee on Public Health and Legislation. W. F. Beer moved that the report be accepted. Seconded and carried.

J. C. Landenberger read a report of the Medico-Legal Committee. This was discussed by J. Z. Brown and P. G. Snow. G. H. Pace moved that the report be accepted and filed. Motion seconded and carried.

W R. Tyndale read the report of the Library Committee, and stated that henceforth none except physicians would be allowed the privilege of the stacks. This report was discussed by B. I. Burns and W. T. Ward. G. Richards moved that the report be accepted and filed.

W. R. Tyndale moved that W. T. Cannon be given a vote of thanks for the donation of his medical library to the Salt Lake County Medical Library, and that a letter of thanks be sent to him by the secretary. Seconded and carried.

Sol G. Kahn read the report of the Committee on Reduction of Medical Meetings. The committee recommended that the regular monthly clinical meetings at the various hospitals be discontinued, and that the Salt Lake County Medical Society substitute two yearly clinical meetings at each hospital in their place. F. M. McHugh moved the adoption of this report. Seconded and carried.

J. P. Kerby reported for the Fee Schedule Committee. This committee reiterated the recommenda-

tions of its last report, and recommended that persistent failure to follow the fee schedule be regarded as grounds for loss of membership; and finally recommended that some action be taken by the society to carry out these recommendations, or that the committee be discharged and their function discontinued. This was discussed by G. G. Richards, F. Stauffer, G. H. Pace, J. E. Jack, L. N. Ossman, A. C. Callister, and W. F. Beer. W. R. Tyndale moved that this committee present to the society a new fee schedule for adoption. J. P. Kerby amended this motion to the effect that a special meeting of the society be called to consider the new fee schedule. This amendment was accepted by W. R. Tyndale, and the motion and amendment were seconded and carried.

F. H. Raley, chairman of the board of censors, presented a revision of the Constitution and By-Laws regarding the formation of an associate membership. This report was discussed by G. G. Richards, F. Stauffer, F. H. Raley, W. F. Beer, H. P. Kirtley, B. I. Burns, and J. Z. Brown.

L. J. Paul read the report of the Boy Scouts Committee. W. Rich moved that the report be accepted and filed.

The report of the Necrology Committee, J. W. Giesy, chairman, was read by the secretary. G. H. Pace moved that the report be accepted and filed.

D. G. Edmunds read the report of the Committee on Irregular Practices. Sol G. Kahn moved that the report be accepted and filed, and that the committee be continued for next year. Seconded and carried.

J. C. Landenberger read the report of the Special Committee to Investigate the new policy of the United States Fidelity and Guaranty Company. The committee recommended the adoption of the new policy by those members who wish to insure themselves with this company. This report, however, was not meant to recommend that the policy of this company was preferable to the policy of any other company. This was discussed by Sol G. Kahn, A. C. Callister, and G. A. Cochran. W. R. Tyndale moved that the report be accepted and filed. Seconded and carried.

Earl F. Wight was elected to membership by sixty-one yeas, and one no.

The society then proceeded to elect officers for the coming year. Sol G. Kahn nominated M. M. Nielson for president. W. F. Beer moved that the nomination be made unanimous, and that the secretary be instructed to cast the ballot. Seconded and carried. W. F. Beer nominated F. M. McHugh for vice-president and J. Z. Brown nominated R. Groesbeck for vice-president. L. N. Ossman moved that the nomination be closed. Seconded and carried. F. M. McHugh was voted vice-president by a vote of 44 to 30. J. Z. Brown moved that the election of F. M. McHugh be made unanimous. Seconded and carried. A. C. Callister moved that B. E. Bonar be elected secretary by acclamation. Seconded and carried. W. F. Beer moved that Clark Young be elected treasurer by acclamation. Seconded and carried.

W. G. Schulte moved that the tradition of electing the retiring president a member of the board of censors be continued, and that the secretary be instructed to cast a unanimous ballot for C. M. Benedict. Seconded and carried.

President C. M. Benedict gave his address as retiring president. He mentioned that his mother, in the early eighties, gave a dinner to a group of Salt Lake City physicians, and this group later formed the nucleus for the Salt Lake County Medical Society. He stated that it had been a great honor to him to be president of the society with which his family had been so intimately associated. President C. M. Benedict asked Spencer Wright and W. G. Schulte to escort the incoming president, M. M. Nielson, to the chair. M. M. Nielson made a few remarks.

W. R. Tyndale moved that the society extend a vote of thanks to the passing officers for their year's work. Seconded and carried.

Clark Young announced that the dues for 1930 were payable now, and that the usual fine would be instituted for those whose dues were not received by February 1.

The meeting adjourned at 10:05 o'clock.

BARNET E. BONAR, *Secretary.*

*

UTAH COUNTY

The Utah County Medical Society met October 23. The principal paper of the evening was by Doctor Curtis, of Salt Lake City, on "General Aspects of Psychiatry of Interest to the General Practitioner." Following this paper, Doctor Ossman of Salt Lake gave an interesting talk on "A Newer Conception of the Treatment of Osteomyelitis."

The meeting of November 20 was marked by a paper on "X-ray Diagnosis of Right-Sided Enteroptosis," with x-ray illustrations, by Dr. Robert Tyndale of Salt Lake. Dr. George E. Bryan of Hollywood, California, was present at this meeting as a guest.

The Utah County Dental Society invited the members of the Utah County Medical Society to meet with them jointly on November 25. At this time, Doctor Wherry of Salt Lake spoke on "Mouth Infections." Doctor Bergstrom of Salt Lake discussed the same topic, and the president-elect of the Utah Dental Society gave a short talk on "A Plea for Better Coöperation between the Physician and Dentist."

Dr. A. E. Robison has recently returned from Chicago where he has been pursuing postgraduate work, with especial attention to physical therapy. He attended the annual convention of the American College of Physical Therapy while in the East.

Dr. Walter Hastler has recently returned from The Mayo Clinic where he has been for some time, both as a patient and a student.

J. L. AIRD, *Secretary.*

*

WEBER COUNTY

The meeting of the Weber County Medical Society was held November 22 at the Hotel Bigelow, President A. H. Aland presiding.

Election of officers of the medical society for 1930 follows: Henry W. Nelson, president; W. H. Budge, vice-president; Conrad Jensen, secretary; S. W. Badcon, treasurer.

The society has an excess of funds in the bank, and Dr. E. R. Dumke moved that the fund be left in the bank at 4 per cent interest. This was seconded by Dr. L. S. Merrill and passed.

The paper for the evening was given by Dr. Conrad Jensen on "Postgraduate Work in Europe." This paper was very interesting. Discussion was opened by Doctors E. C. Rich, L. R. Jenkins, and A. H. Aland.

The meeting adjourned.

GEORGE M. FISTER, *Secretary.*

UTAH NEWS

The regular meetings of the Academy of Medicine were resumed the evening of December 5, after having been suspended during the last week of November.

The program given the first meeting of December is as follows: Coronary Occlusion (slides), Dr. Van Scoyoc; Personal Experiences with Amytal and Spinal Anesthesia, Dr. H. T. Anderson; Presentation of Chest Case (with pictures), Dr. Jellison.

* * *

The regular meeting of the Holy Cross Hospital Clinical Association was held the evening of November 18, in the lecture room of the hospital. The following program was presented: A "Nephroma" 1-B Carcinoma of the Prostate with Metastasis to Pelvic Bones, Dr. W. G. Schulte; Severe Burn of Hand, Dr. Sol G. Kahn; Suppurative Arthritis of Knee, Dr. John Sugden; and Encephalitis, Drs. B. E. Bonar and D. E. Hansen.

MISCELLANY

Items for the News column must be furnished by the twentieth of the preceding month. Under this department are grouped: Comment on Current and Recent Articles in the Journal; News; Medical Economics; Correspondence; Department of Public Health; California Board of Medical Examiners; and Twenty-Five Years Ago. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Western Surgical Association.—At the thirty-ninth annual meeting of the Western Surgical Association, held at Del Monte December 12, 13 and 14, 1929, Dr. Carl E. Black of Jacksonville, Illinois, was elected president; Dr. Frank R. Teachenor, secretary; and Dr. Thomas G. Orr of Kansas City, Missouri, treasurer.

The next meeting of the association will be held at Kansas City, December 11, 12 and 13, 1930.

The Increase in Subscription.—At its recent meeting, the board of trustees of the American Medical Association voted to increase the price of the journal, including fellowship dues, to $7. The action was taken in accordance with authorization by the House of Delegates at the annual session in Portland. The advisability of the increase should be apparent to all subscribers and to Fellows of the Association. The expansion of the work of the association, and particularly the extension of service rendered to Fellows and subscribers during the last ten years, is widely recognized. The publication of the special periodicals and of the *Quarterly Cumulative Index Medicus* are drains on the finances of the association well worth while for the advancement of medical science. The special committees making grants for scientific research and therapeutic research, the Councils on Medical Education, on Pharmacy and Chemistry, on Physical Therapy and on Scientific Assembly function for the good of medicine and for the public health without asking any financial return from the medical profession or the public. The Bureaus of Health and Public Instruction, of Investigation and of Legal Medicine and Legislation answer thousands of questions from physicians and from the public and represent medicine in many phases of professional and public life. The package library and the reference and periodical lending services aid physicians everywhere, but particularly in smaller communities, to keep abreast of scientific progress. Indeed, space is not available to enumerate all of the various activities and plans, which are, no doubt, well known to those who have followed carefully the annual reports of the board of trustees. Even if it were not for all these projects, the price of subscription to the journal is still comparatively far below the subscription prices of other similar periodicals published both in this country and abroad. *The Journal of the American Medical Association* supplies some four thousand reading pages annually, as compared with from 1152 to 2736 reading pages supplied by leading weekly medical publications in other countries. The new subscription price of $7 may be compared with prices varying from $10 to $17 charged by similar publications abroad. The plans of the board of trustees contemplate new buildings, a national scientific exhibit, extension of library and bibliographic services, and a wider extension of the help that the association can render to the individual practitioner.

Warning to Physicians.—Recently there has been active among physicians in New York and Boston an impostor who on two occasions has represented himself to be the son of Dr. Otis B. Wight of Portland, Oregon. The impostor is about five feet eight inches in height, with dark hair, and with eyes so dark that, except in a good light, his pupils cannot be distinguished. His face is rather long and narrow with well developed nose and chin, lips slightly full, skin pale and fairly clear; well dressed, wearing a fraternity pin prominently (not identified, but claimed by the wearer to be Sigma Chi), pleasant manners and address. When last seen he had on a light gray felt hat, light brownish gray topcoat, dark blue suit, tan shoes, and rubbers. He claimed to have been at Johns Hopkins Medical School two years and to be now at Western Reserve University in the fourth year of medical school. His name and story will probably be different when next heard from, but a description of him has been given to the Boston police department. Doctor Wight is interested in his identification.

University of California Medical School.—The University of California Medical School announces the organization of new activities in the field of medical history and bibliography, which includes instruction and research in these subjects and supervision of the development of the Medical School library.

Dr. LeRoy Crummer has accepted an appointment as clinical professor of medical history and bibliography, effective January 1, 1930, and Dr. Sanford Larkey is to be assistant professor of medical history and bibliography, effective July 1, 1930.

The New Shrine.—The hope for a miracle—a doubting faith in miracles—is eternal in the human mind. Born into suffering as the sparks fly upward man is ever in search of the short cut that will relieve him of his pain and release him forever from the necessity of patience in working out his destiny. It is inborn in us, this desire to cut at one stroke the Gordian knot, to throw off our mortal burdens and to stand forth free.

Miracles furnish the glamor of the Testaments, and the lapse of nineteen hundred years has rid us of the necessity of trying to interpet them on a rational basis. So many centuries are piled up upon them that it is futile for us to try and apply to them the measure of scientific accuracy.

New miracles have been quoted and new shrines have been established, however, through all the ages. We now, in this mechanical age, have before us the spectacle of hundreds of thousands of afflicted believers—and of idle curiosity seekers—flocking to the near-by grave of a youthful priest who died almost sixty years ago.

Modern miracles of healing generally resolve themselves into two classes—the healing of those who had only an imaginary disease to begin with, and the imaginary cure of those afflicted with organic disease. The permanency of either of these cures may be speculated on; presumably the first may occasionally be of lasting value, although one is reminded of Billy Sunday's reference to the bath—its value is not wholly destroyed by the fact that it needs an occasional repetition.

Will the grave of this holy youth become a shrine which will permanently grip the imagination of the emotional masses and stimulate their belief for years to come? Will he become another St. Ann de Beaupré? This we cannot answer except to say that the emotional masses are fickle, and that today, as little as at any time, are we building on permanent foundations.

The amazing thing is to realize what a little distance the human mind has traveled since the mysticism of the Middle Ages; what a short step it is back to the days of Salem witchcraft. One can almost believe that the terror of that period might be repeated today.—*The New England Journal of Medicine*, November 1929.

MEDICAL ECONOMICS

The Physician's Income Tax—1929.—The taxpayer who is required to make a return must do so on or before March 15, unless an extension of time for filing the return has been granted. For cause shown, the collector of internal revenue for the district in which the taxpayer files his return may grant such an extension, on application filed with him by the taxpayer. This application must contain a full recital of the causes for the delay. Failure to make a return may subject the taxpayer to a penalty of 25 per cent of the amount of the tax due.

The normal rate of tax on individual citizens or residents of the United States, under the Revenue Act of 1928, is 1.5 per cent on the first $4000 of net income in excess of the exemptions and credits, 3 per cent on the next $4000, and 5 per cent on the remainder.

WHO MUST FILE RETURNS

1. Returns must be filed by every person having a gross income of $5000 or more, regardless of the amount of his net income or his marital status. If the aggregate gross income of husband and wife, living together, was $5000 or more, they must file a joint return or separate returns, regardless of the amounts of their joint or individual net incomes.

2. If gross income was less than $5000, returns must be filed (*a*) by every unmarried person, and by every person married but not living with husband or wife, whose net income was $1500 or more, and (*b*) by every married person, living with husband or wife, whose net income was $3,500 or more. If the aggregate net income of husband and wife, living together, was $3500 or more, each may make a return or both unite in a joint return.

If the marital status of a taxpayer changed during the tax year, the amount of income necessary to bring him within the class required to make returns should be ascertained by inquiry of the local collector of internal revenue.

As a matter of courtesy only, blanks for returns are sent to taxpayers by the collectors of internal revenue, without request. Failure to receive a blank does not excuse anyone from making a return; the taxpayer should obtain one from the local collector of internal revenue.

The following discussion covers matters relating specifically to the physician. Full information concerning questions of general interest may be obtained from the official return blank or from the collectors of internal revenue.

GROSS AND NET INCOMES—WHAT THEY ARE

Gross Income.—A physician's gross income is the total amount of money received by him during the year from professional work, regardless of the time when the services were rendered for which the money was paid, plus such money as he has received as profits from investments and speculation, and as compensation and profits from other sources.

Net Income.—Certain professional expenses and the expenses of carrying on any enterprise in which the physician may be engaged for gain may be subtracted as "deductions" from the gross income, to determine the net income on which the tax is to be paid. An "exemption" is allowed, the amount depending on the taxpayer's marital status during the tax year, as stated before. These matters are fully covered in the instructions on the tax return blanks.

Earned Income.—In view of the credit of 25 per cent allowed on earned net income, the physician should state accurately the amount of such income as distinguished from his receipts from other sources. Earned income means professional fees, salaries and wages received as compensation for personal services rendered. From this, in the computation of the tax, must be subtracted certain "earned income deductions." The difference is the "earned net income."

The first $5000 of an individual's net income from all sources may be claimed, without proof, to be earned net income, whether it was or was not in fact earned within the meaning set forth in the preceding paragraph. Net income in excess of $5000 may be claimed as earned if it in fact comes within that category. However, a taxpayer may not claim, as earned, net income in excess of $30,000.

The conditions relating to the computation of the tax on earned income are too elaborate to be stated here. In case of doubt, physicians should consult collectors of internal revenue.

DEDUCTIONS FOR PROFESSIONAL EXPENSES

A physician is entitled to deduct all current expenses necessary in carrying on his practice. The following statement shows what such deductible expenses are and how they are to be computed:

Office Rent.—Office rent is deductible. If a physician rents an office for professional purposes alone, the entire rent may be deducted. If he rents a building or apartment for use as a residence as well as for office purposes, he may deduct a part of the rental fairly proportionate to the amount of space used for professional purposes. If the physician occasionally sees a patient in his dwelling house or apartment, he may not, however, deduct any part of the rent of such house or apartment as professional expense; to entitle him to such a deduction he must have an office there, with regular office hours. If a physician owns the building in which his office is located, he cannot charge himself with "rent" and deduct the amount so charged.

Office Maintenance.—Expenditures for office maintenance, as for heating, lighting, telephone service and the services of attendants are deductible.

Supplies.—Payments for supplies for professional use are deductible. Supplies may be fairly described as articles consumed in the using; for instance, dressings, clinical thermometers, drugs and chemicals. Professional journals may be classified as supplies, and the subscription price deducted. Amounts currently expended for books, furniture and professional instruments and equipment, "the useful life of which is short," may be deducted; but if such articles have a more or less permanent value, their purchase price is a capital expenditure and is not deductible.

Equipment.—Equipment comprises property of more or less permanent value. It may ultimately be used up, deteriorate or become obsolete, but it is not in the ordinary sense of the word "consumed in the using"; rather, it wears out.

Payments for equipment or nonexpendable property for professional use cannot be deducted. As property of this class may be named automobiles, office furniture, medical, surgical and laboratory equipment of permanent value, and instruments and appliances constituting a part of the physician's professional outfit and to be used over a considerable period of time. Books of more or less permanent value are regarded as equipment, and the purchase price is therefore not deductible.

Although payments for equipment or nonexpendable articles cannot be deducted, yet from year to year there may be charged off against them reasonable amounts as depreciation. The amounts so charged off should be sufficient only to cover the lessened value of such property through obsolescence, ordinary year and tear, or accidental injury. If improvement to offset obsolescence and wear and tear or injury has been made, and deduction for the cost claimed elsewhere in the return, claim should not be made for depreciation.

A hard and fast rule cannot be laid down as to the amount deductible each year as depreciation. Everything depends on the nature and extent of the property and on the use to which it is put. Five per cent a year has been suggested as a fair amount for depreciation on an ordinary medical library. Depreciation on an automobile would obviously be much greater. The proper allowance for depreciation of any property is that amount which should be set aside for the tax year in accordance with a reasonably con-

sistent plan, not necessarily at a uniform rate, whereby the aggregate of the amounts so set aside, plus the salvage value, will at the end of the useful life of the property in the business equal the purchase price of the property or, if purchased before March 1913, its estimated value as of that date or its original cost, which ever may be the greater. The physician must in good faith use his best judgment and make such allowance for depreciation as the facts justify. Physicians who, from year to year, claim deductions for depreciation on nonexpendable property will do well to make annual inventories, as of January 1, each year.

Medical Dues.—Dues paid to societies of a strictly professional character are deductible. Dues paid to social organizations, even though their membership is limited to physicians, are personal expenses and not deductible.

Postgraduate Study.—The Commissioner of Internal Revenue holds that the expense of postgraduate study is not deductible.

Traveling Expenses.—Traveling expenses necessary for professional visits to patients are deductible. The board of tax appeals has held that traveling expenses incurred in attending medical meetings are deductible (Cecil M. Jack v. Commissioner, 13 B. T. A. 726; J. Bentley Squier, 13 B. T. A. 1223). Such expenses include only those necessarily incurred in attendance at a professional meeting for a professional purpose. The taxpayer is advised to make no claim for the deduction of such expenses unless he is prepared to establish the fact of expenditure. In the future accurate itemized records should be kept of such expenses and substantiating evidence, such as Pullman and railroad receipts, hotel bills and so on, should be carefully preserved.

AUTOMOBILES

Payment for an automobile is a payment for permanent equipment, and is not deductible. The cost of operation and repair, and loss through depreciation, are deductible. The cost of operation and repair includes the cost of gasoline, oil, tires, insurance, repairs, garage rental (when the garage is not owned by the physician), chauffeurs' wages, etc.

Deductible loss through depreciation is the actual diminution in value resulting from obsolescence and use, and from accidental injury against which the physician is not insured. If depreciation is computed on the basis of the average loss during a series of years, the series must extend over the entire estimated life of the car, not merely over the period in which the car is in the possession of the present taxpayer.

If the automobile is used for professional and also for personal purposes—as when used by the physician for recreation, or used by his family—only so much of the expense as arises out of the use for professional purposes may be deducted. A physician doing an exclusive office practice and using his car merely to go to and from his office cannot deduct depreciation or operating expenses; he is regarded as using his car for his personal convenience and not as a means of gaining a livelihood.

What has been said with respect to automobiles applies with equal force to horses and vehicles and the equipment incident to their use.

MISCELLANEOUS

Laboratory Expenses.—The deductibility of the expenses of establishing and maintaining laboratories is determined by the same principles that determine the deductibility of other corresponding professional expenses. Laboratory rental and the expenses of laboratory equipment and supplies and of laboratory assistants are deductible when under corresponding circumstances they would be deductible if they related to a physician's office.

Losses by Fire, etc.—Loss of and damage to a physician's equipment by fire, theft or other cause, not compensated by insurance or otherwise recoverable, may be computed as a business expense, and is deductible, provided evidence of such loss or damage can be produced. Such loss or damage is deductible, however, only to the extent it has not been made good by repair and the cost of repair claimed as a deduction.

Insurance Premiums.—Premiums paid for insurance against professional losses are deductible. This includes insurance against damages for alleged malpractice, against liability for injuries by a physician's automobile while in use for professional purposes, and against loss from theft of professional equipment, and damage to or loss of professional equipment by fire or otherwise. Under professional equipment is to be included any automobile belonging to the physician and used for strictly professional purposes.

Expense in Defending Malpractice Suits.—Expenses incurred in the defense of a suit for malpractice are deductible as business expense. Expenses incurred in the defense of a criminal action, however, are not deductible.

Sale of Spectacles.—Oculists who furnish spectacles, etc., may charge as income money received from such sales and deduct as an expense the cost of the article sold. Entries on the physician's account books should in such cases show charges for services separate and apart from charges for spectacles, etc.—*Jour. A. M. A.*, January 5, 1929.

CORRESPONDENCE *

Subject of Following Letter: "Mrs. Eddy, The Biography of a Virginal Mind"

Los Angeles,
December 20, 1929.

To the Editors,
California and Western Medicine:

The following advertisement appeared as a display advertisement in the Los Angeles *Times* of recent date:

> "We have been forced to take off our tables all copies of 'Mrs. Eddy' by Edwin Franden Dakin."
>
> This is from a bookseller who writes also that, because of pressure from individuals who are trying to smother this biography, he has been obliged to return his stock of copies and compelled to write a letter of apology to "two agencies" in his city. Personally this bookseller endorses the book.
>
> This is a sample of many similar letters which come to us from coast to coast. The result is a situation almost incredible in a free country. . . .
>
> Throughout almost eighty-five years of publishing, we have been able to say of our books, "On sale at all book stores." We regret that in this one case, we must qualify this statement.
>
> If you can't get a copy of "Mrs. Eddy: The Biography of a Virginal Mind," from any available bookseller, we will mail you a copy postpaid to any part of the United States on receipt of $5.
>
> Charles Scribner's Sons,
> 597 Fifth Avenue, New York City.

The undersigned had read this book and had found it to be even kinder to the memory of the late, lamented Mrs. Mary Baker Glover Patterson Eddy and the Christian Science Church than have been Georgine Milmine or Peabody or others who have dissected this life and organization, and therefore he was astonished to know that the central organization

* California and Western Medicine in printing letters in the Correspondence column does so without committing the California Medical Association or the journal to any issues that are discussed, and prints such communications without prejudice.

of the higher powers of the Christian Science Church was attempting to suppress free speech, free reading, and free thought in Los Angeles, and presumably in other cities of California and of the United States.

Inquiry by him elicited the fact that booksellers in Los Angeles had been requested, and either by direction, or innuendo, had been threatened or urged to suppress the sale of this book.

The writer was informed that C. C. Parker, 520 West Sixth Street, was the only bookseller in the city who had continued a window display in defiance of the demands of the Christian Scientists. The writer was also informed that a window display made by the book department of Bullock's was removed within three hours of its opening by reason of a storm of protests from followers of Mrs. Mary B. G. P. Eddy.

This was so interesting that visits were made to a number of stores to ascertain the facts. At the book department of the Broadway Department Store the book was on sale and in evidence. At Bullock's the writer purchased a copy, but it was under the counter. At the Jones book store, 426 West Sixth Street, it had been on sale, but there were none in stock. The assistant manager stated that there had been much controversy about the book, and he did not know what the policy of the firm would be. The writer's card was left, with a request for information. None came. A visit to this store on December 10 elicited the fact that there were none in stock, but that it could be ordered.

At Parker's, 520 West Sixth Street, the book was on display, in stock, and more coming. The manager of the book department of the J. W. Robinson department store stated that the book was not on sale, would not be on sale and could not be ordered through this firm. An hour later the writer was informed over the phone by Mr. Rhodes, secretary of the firm, who was present during my conversation with the manager of the book department, that they would take an order for the book.

On December 11 my wife called at the May department store book department and was curtly told that they did not sell the book, would not sell the book by order or otherwise.

Fowler Brothers book store, 747 South Broadway, have the book on display and have sold it from the start.

The feature of this affair that is most interesting to the writer is that the subtle influence of the Christian Science committee can in a large measure throttle the speech, the reading, the thought of a million and a half of Los Angeles people who are in no way in sympathy with them. There are some thirty Christian Science churches in Los Angeles. It is not probable that their average membership is five hundred, and I am informed by a former Christian Scientist that it is less than three hundred. No doubt there are hundreds of thousands of Catholics, Jews, and Protestants who would like to know this story. Why not let them have it?

The book itself has received the highest praise as a work of real unbiased biography by the best reviewers in the country, such as the New York *World*, Springfield *Republican*, *Saturday Review*, *The Nation*, Boston *Herald*, *The Carnegie Library Magazine*—the unmuzzled press.

The medical profession does not wish to interfere with Christian Scientists in their religion or in the care of their own personal bodies. It should be vitally concerned, however, when the Christian Science organization or any other organization attempts to interfere with the sanitary or health control of the community as such, or when it attempts to interfere with the free speech, free thought, or free reading of the people of a country such as the United States of America.

WILLIAM DUFFIELD, M. D.

TWENTY-FIVE YEARS AGO*

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. III, No. 1, January 1905

From some editorial notes:

. . . *Another New Year.*—The *Journal* enters upon its third year of life with hope and confidence and is cheerful of the future. We speak of it in this personal sense for, to your Publication Committee, the *Journal* seems a living, growing entity; our child. The condition of the society is excellent; county societies, almost without exception, are in a flourishing condition and are growing at a healthy rate. A number of counties where no societies now exist are ready for organization. On every important question confronting the medical profession of California there is harmonious agreement. Judging from the kindly expressions of opinion that come to us from every county society and from individuals in all parts of the country, the *Journal's* policy in regard to not only a passive but an active part in the fight for clean advertising, is heartily approved. . . .

. . . *Tuberculosis Sanatoria.*—A question which should receive the careful consideration of all members of the society, and their thoughtful expression, is the proposed establishment of state sanatoria for the tuberculous poor. . . .

. . . What direction shall state or municipal aid take? Shall it be out-patient dispensaries, or shall it be sanatoria, or both? Judging from the general tone of discussion, not only here in California but in other parts of the United States, both projects are considered desirable and necessary. . . .

. . . *Just Keep Hammering.*—During the past few months the *Journal* has devoted considerable space to editorial discussion of the advertising question and to occasional criticism of the American Medical Association, or rather of its trustees, in connection with that important subject. It is possible that at times this may be a little monotonous to some of our readers; at times it is somewhat tiresome even to the Publication Committee. But we must crave your indulgence yet a little while. An official of the American Medical Association, who has gone over the ground very carefully, said to a member of the committee: "You are unquestionably right, and you are doing the only thing that can possibly bring results; you are constantly hammering. Keep it up, for if you stop and the subject is dropped, it will sink into oblivion. Keep hammering and you will see that the question will have to be taken up and settled right." For that reason we shall "keep hammering." . . .

. . . *The Pity of It All.*—Contrast the downright honesty of the Japanese commissariat, the fine wool blankets combining warmth with lightness; the lamb's wool toe socks for extreme cold weather; the beautifully woven underwear; the rice and other foodstuffs, of which only the best is accepted: compare these with our own embalmed beef, our actually rotten and rotting tinned pork and beans, our poor shoddy cloth, our glove scandal, the thousand and one instances of "graft, graft, graft." The existence of surprise is indicative of a widespread demoralization that is appalling in its tragic significance. So accustomed are we to corruption that simple honesty excites our surprise; graft we look upon as naturally to be expected. . . .

. . . *Registration of Nurses.*—The California State Nurses' Association has had prepared a bill which is to be introduced in the legislature providing for registration of graduate and qualified nurses. The text of the bill has been submitted to a number of attorneys and prominent physicians and has received their approval. . . .

* This column aims to mirror the work and aims of colleagues who bore the brunt of state society work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and recent members.

From an article entitled "My Son, Make Money; Honestly, If You Can, But—Make Money":

. . . . Let us once more glance at the financial statement made by the trustees of the American Medical Association at the last meeting and see whether further understanding may have come from reflection. . . .

. . . It is difficult to see, from the figures which the trustees give, why it would not be possible for them to conduct *The Journal of the American Medical Association* in accordance with the Principles of Ethics, do all the work the association is now doing, and still make money. And the dollars thus made would be good, clean, wholesome dollars, without taint or stench. It is true that the reserve fund would grow the more slowly, but it would grow, and in the end be a monument to good business sense as well as to good ethics, instead of being an apparent illustration that the accumulation of wealth will counterbalance disregard of ethical principles. . . .

From an article on "Second and Fourth Positions of the Vertex" by Henry Gibbons, Jr., M. D., San Francisco:

I have long been impressed with the want of agreement of the textbooks on obstetrics in regard to the occurrence and the frequency of second and fourth positions of the vertex. Until recently little more than the possibility of the occurrence of the left occipitoposterior position has been admitted. . . .

From an article on "Appendicitis—Some Points in Its Diagnoses and Treatment from the Viewpoint That Its Cause Is a Strangulation Produced by Distention Behind a Ball-Valve" by C. Van Zwalenburg, M. D., Riverside:

I wish to acknowledge my indebtedness to Doctors Black and Leonard of the Hendryx Laboratory of the College of Medicine of the University of Southern California, by whose courtesy that institution was used for most of the work. The specimens of inflamed appendices of dogs are the result of some experiments undertaken to demonstrate that strangulation from overdistention of the appendix will produce appendicitis. . . .

From an article on "Chronic Otorrhea as Viewed by the Life Insurance Companies and the Medical Recruiting Officer" by A. Barkan, M. D., San Francisco:

Motto: As long as a discharge from the ear exists, we are never able to say how, when or where it may end, nor to what it may lead.—Wilde.

The running ear, having been considered harmless, nay, a benefit to the general economy of the body, by many from time immemorial, has ceased to be a *noli me tangere.* The last twenty years have brought about a change so radical in the understanding of this malady that radical operative measures have been adopted to fight it. . . .

From a letter on the subject of "Wood-Alcohol Poisoning:

To the Editor of the State Journal: A few days since, by presenting to the San Francisco County Medical Society a case of wood-alcohol poisoning, I have tried to draw local attention to a matter of public moment, as evinced by the attitude of the American Medical Association regarding the same, and the publicity it has received more recently still in the daily press on the occasion of the deaths of several persons in New York from the same poison. . . .

From medical society reports:

Association of South Side Physicians.

The Association of South Side Physicians held its regular bimonthly meeting Friday evening, October 28, at Dr. W. F. Barbat's office, 1310 Folsom Street, with the president, Dr. A. Eichler, in the chair. . . .

. . . Dr. A. B. Spalding, who had been invited to attend the meeting, explained the purposes and methods of conducting the San Francisco Maternity Hospital at 1217 Harrison Street, as there had been some misapprehension of the objects of the institution. . . .

DEPARTMENT OF PUBLIC HEALTH

By W. M. Dickie, *Director*

Epidemic Meningitis.—The incidence curve of epidemic meningitis in California by years and months from 1920 to the end of July 1929, shows that there was relatively a high incidence of the disease in 1920 and 1921, but thereafter, for a period of four years, there were few cases and few deaths. In December 1925, there was a definite rise in incidence which marked the beginning of a series of three annual peaks which occurred in the winter and spring months of 1926, 1927, and 1928. The peak of 1928 was lower than those of 1926 and 1927, and during the late summer and autumn months of 1928 the incidence curve appeared to be approaching the normal level of 1922-1925. However, in November 1928, the case incidence began to increase and continued to rise rapidly, month by month, until the peak of 112 cases was reached in March 1929. A high incidence was maintained during April and May, but in June and July the number of new cases had dropped to about one-half, although this still was relatively a high case incidence. There has been a further decline during the past few weeks, but, bearing in mind that the normal seasonal incidence is greater in the winter and spring months, one can but speculate whether we have passed through the worst of this epidemic or whether there is more to follow.

An interesting, though not surprising fact is that, coincident with the marked increase in the number of cases, there has been an increase in the case mortality rate. From 1922 to 1925, inclusive, the case mortality rate was 36.6 per cent; in 1928 it was 44.4 per cent; and during the first six months of 1929 it was 50.8 per cent. The number of reported cases during this six-month period was 521, and the number of deaths was 265.

An editorial in *The Journal of the American Medical Association* of June 15, 1929, might lead one to believe that the epidemic meningitis situation on the Pacific Coast was particularly alarming, but no such conclusion is justifiable. This has been a meningitis year, not only in the West but elsewhere in the United States, and the situation has been sufficiently acute to justify monthly bulletins in the public health reports. On January 11 it was reported that, although the incidence of epidemic meningitis in the United States had been unusually low during the first week in November 1928, a sharp rise became apparent during the remainder of the month and that during the three weeks ending December 1, 258 cases had been reported as compared with 139 cases during the corresponding period of 1927. On February 1 it was reported that there was an increase during December in nearly all the states, and on March 1 it was stated that in January 1929, the incidence of the disease in the United States was the highest since 1918, with a general tendency toward an increase in all sections of the country. Finally, on July 5, 1929, McCoy reported that one must go back to 1905 to find the last comparable prevalence of the disease, and it is an interesting fact that the beginning of the epidemic was at approximately the same time in all sections of the country.—Ernest C. Dickson, M. D., Department of Public Health and Preventive Medicine, Stanford University Medical School.

Examine Thirteen Thousand Children of Preschool Age.—Nearly thirteen thousand California children, who entered school for the first time this fall, were given physical examinations by the Bureau of Child Hygiene of the State Department of Public Health,

in coöperation with the California Congress of Parents and Teachers. Most of these children live in the rural districts of the state, where organized facilities for child care are not available. Forty-eight counties of the state were covered in the campaign. Examinations were conducted by competent physicians, many of whom donated their services. The examining physicians noted the condition of the heart, lungs, eyes, ears, nose, throat, teeth, and the weight and posture of the children. They recorded conditions which were necessary for correction and advised the parents to secure such corrections from local physicians before the child was permitted to enter school. The most commonly encountered defect was decayed teeth. The next most common defect encountered was diseased throat and nose. A large number of the children were found to be underweight and faulty posture was a commonly found defect.

Doctor Tenent Is Stanislaus County Health Officer. The board of supervisors of Stanislaus County established a full-time health unit recently and Dr. C. H. Tenent of Memphis, Tennessee, has been selected as county health officer. Stanislaus County is the thirteenth county of the state to establish its health department upon a full-time basis. The county has an estimated population of 64,000. Modesto, the county seat, is one of the most rapidly growing cities in the state. Other incorporated towns within the county are Turlock, Newman, Patterson, Ceres, Oakdale, and Riverbank. Stanislaus County is in a rich agricultural section and offers an ideal field for unified public health administration.

Tularemia—First Known Case in California.—It is interesting to learn that the first known case of tularemia occurred in California as long ago as 1904. This fact developed through information contained in a letter written on June 6, 1928, by Dr. T. F. Johnson, for many years health officer of National City, to Dr. Edward Francis of the United States Public Health Service. Doctor Johnson stated that his son contracted an infection from wild rabbits in 1904. According to the history, the boy, then fifteen years of age, residing in National City, San Diego County, when hunting on May 30, 1904, shot and dressed twelve rabbits at Sweetwater Dam. At about the same time he punctured his hand with what appeared to be a "sliver." On June 4, he was taken ill, and the illness was accompanied by swelling of the hand, enlarged epitrochlear and axillary glands. His temperature reached 104 degrees F. The blood serum collected from Doctor Johnson's son June 6, 1928, twenty-four years after this illness, agglutinated *B. tularense* in all dilutions from 1/10 to 1/160, confirming the diagnosis of tularemia after a lapse of twenty-four years. This information was submitted to the California State Department of Public Health by Surgeon Francis, together with the following statement:

"What I believe to be the very first reference on record to tularemia in rabbits or in man in the United States is contained in a letter written in 1904 by the patient, a boy fifteen years of age, to his sister, in which, while still sick, he relates the source of his infection, his symptoms and the treatment which he received at the hands of his father, Dr. Theodore F. Johnson, of National City, California."

Cases of tularemia were not recognized as such in California until 1927. The disease was made reportable June 2, 1928. A total of thirty-seven cases have been recorded in California. Three of these cases occurred in laboratory workers prior to 1927. Two cases occurred in 1927 in patients who handled jackrabbits. Sixteen cases occurred in 1928, and fifteen cases have been reported so far this year.—*Weekly Bulletin, California Department of Public Health.*

CALIFORNIA BOARD OF MEDICAL EXAMINERS

By C. B. PINKHAM, M. D.
Secretary of the Board

News Items, January 1930

Results of October 1929 Examination—Board of Medical Examiners, State of California.—Charles B. Pinkham, M. D., secretary of the Board of Medical Examiners of the State of California, reports the written examination held in Sacramento, October 22 to 24, 1929. The examination covered nine subjects, and included ninety questions. An average of 75 per cent was required to pass. An allowance of one per cent for years of practice was added to the general average of four applicants who had not received less than 60 per cent in more than one subject. Fifty-six applicants were examined. Fifty-one passed, and five failed. The following colleges were represented:

I. PASSED

College	Year Grad.	Per Cent
Boston University	(1928)	78 5/9
College of Medical Evangelists	(1927)	82 2/9
College of Medical Evangelists	(1928)	90 7/9
College of Medical Evangelists	(1929)	83 4/9
College of Medical Evangelists	(1929)	77 7/9
College of Medical Evangelists	(1929)	76 6/9
College of Medical Evangelists	(1929)	89 8/9
College of Medical Evangelists	(1929)	87 2/9
College of Medical Evangelists	(1929)	83 8/9
Creighton University School of Medicine	(1929)	81 6/9
Creighton University School of Medicine	(1929)	83 1/9
Creighton University School of Medicine	(1929)	79 7/9
Creighton University School of Medicine	(1929)	82 5/9
Harvard University Medical School	(1924)	86 5/9
Harvard University Medical School	(1925)	88
Harvard University Medical School	(1929)	78 5/9
Jefferson Medical College	(1929)	82 8/9
Johns Hopkins University School of Medicine	(1928)	87 8/9
Johns Hopkins University School of Medicine	(1929)	78 1/9
McGill University Faculty of Medicine	(1920)	(a) 93 5/9
McGill University Faculty of Medicine	(1926)	(b) 83
McGill University Faculty of Medicine	(1929)	80
Northwestern University Medical School	(1927)	78 8/9
Northwestern University Medical School	(1927)	86 8/9
Northwestern University Medical School	(1929)	81 4/9
Ohio State University	(1926)	84 5/9
Rush Medical College	(1929)	89 1/9
Rush Medical College	(1929)	83 5/9
Rush Medical College	(1929)	78 6/9
Rush Medical College	(1929)	85 4/9
Stanford University Medical School	(1928)	89
Stanford University Medical School	(1929)	81 8/9
Stanford University Medical School	(1929)	86 3/9
St. Louis University School of Medicine	(1929)	81
St. Louis University School of Medicine	(1929)	78 2/9
University of Buffalo School of Medicine	(1928)	89 7/9
University of California Medical School	(1928)	75 5/9
University of California Medical School	(1929)	82 5/9
University of California Medical School	(1929)	82 8/9
University of Colorado School of Medicine	(1929)	84 1/9
University of Illinois College of Medicine	(1922)	(c) 86
University of Illinois College of Medicine	(1922)	85 5/9
University of Illinois College of Medicine	(1924)	(d) 88 6/9
University of Illinois College of Medicine	(1929)	82
University of Iowa, Medical Department	(1928)	76 8/9
University of Louisville School of Medicine	(1927)	87 2/9
University of Minnesota Medical School	(1929)	82 4/9
University of Pennsylvania School of Medicine	(1929)	81 7/9
Washington University School of Medicine	(1929)	80 3/9
Washington University School of Medicine	(1929)	86 1/9
Yale University School of Medicine	(1926)	83 4/9

(a) Was given 5 per cent credit for years of practice.
(b) Was given 2 per cent credit for years of practice.
(c) Was given 7 per cent credit for years of practice.
(d) Was given 5 per cent credit for years of practice.

II. FAILED

College	Year Grad.	Per Cent
College of Physicians and Surgeons, Boston	(1916)	66 3/9
Creighton University School of Medicine	(1929)	73 5/9
Creighton University School of Medicine	(1929)	73 8/9
University of Prague, Czechoslovakia	(1921)	57
University of Guadalajara, Mexico	(1928)	25 4/9

Democrito R. Gonzales, mentioned in December "News Items" as having practiced in Los Angeles with fraudulent diplomas and state license, was on December 10, 1929, reported sentenced in the Superior Court of Los Angeles to San Quentin for the term prescribed by law. Gonzales was charged under California's diploma mill law—Chapter 79, Statutes 1927, which makes the use of fraudulent credentials a felony. Gonzales had the following three fraudulent documents, which were seized at the time of his arrest: (1) Cambridge University diploma conferring on him the degree Doctor of Medicine; (2) Columbia University College of Physicians and Surgeons (New York) diploma conferring on him the degree Doctor of Philosophy; (3) a farcical California license; and was reported as carrying on a lucrative practice among the Filipinos in Los Angeles.

According to *The Journal of the American Medical Association* of November 16, 1929, William T. Conwell, Philadelphia druggist, was assessed $8000 damages as a result of his alleged treatment of a diabetic who lost his leg as a result.

Dr. Joseph Cornell, 128 West Main Street, Hawthorne, late yesterday was arrested and charged with violation of the Harrison Narcotic Act, following the asserted sale of fifty grains of morphin to an undercover agent. (Los Angeles *Daily News*, November 14, 1929.)

Because he was too busy to appear as a witness in a criminal case, Dr. Frank Chase, medical examiner for the New York Life Insurance Company, yesterday was ordered to serve one day in jail today by Municipal Judge Charles D. Ballard for contempt of court. The physician neglected to appear yesterday morning as a witness against Harry Meyers, accused of grand theft and forgery. When he was brought into court late on a bench warrant, Doctor Chase explained that it was too much "bother" to leave his work to make the court appearance. (Los Angeles *Daily News*, November 30, 1929.)

Dr. George E. Darrow of Azusa today was sentenced to five years to life imprisonment, following his conviction by a jury who heard his trial on a charge of second degree murder based on the death of Jennie Peterson, twenty-three, following an illegal operation. Superior Judge Emmet Wilson pronounced sentence after denying the motion for probation . . . (Los Angeles *Herald*, December 2, 1929.)

Hugh H. Slocumb, M. D., on coming to California seemingly did not consider it necessary to obtain a license before commencing practice, our investigator reporting that he had found 185 prescriptions written by Doctor Slocumb within the ninety days prior to his arrest on December 3 on a charge of violation of the Medical Practice Act.

On October 25 the State Board of Medical Examiners filed a complaint against John O. Varian of Halcyon in Judge W. H. Dowell's court in this city, charging him with practicing a system or mode of treating the sick and afflicted without having a state license. He was arraigned before Judge Dowell and pleaded guilty, whereupon he was sentenced to spend sixty days in the county jail, the sentence being suspended on condition that he does not again violate the Medical Practice Act. (Aurora Grande *Herald-Recorder*, November 8, 1929.)

According to the San Francisco *Examiner* of November 24, 1929, Dr. William V. Whitmore, former chancellor of the University of Arizona and licensed to practice in California in 1890, was on November 23 found guilty in Tucson, Arizon, of conspiracy to violate the Federal Narcotic Laws. Doctor Whitmore was reported later sentenced to fifteen months in the federal penitentiary and a $500 fine.

Margaret Smyth, surgeon and psychiatrist, will serve indefinitely as acting superintendent of the Stockton State Hospital for Insane, Earl E. Jensen, director of institutions, announced here today. Doctor Smyth served as first assistant to the late Dr. Fred P. Clark from 1917 until the latter's death last Sunday. . . . (Oakland *Tribune*, November 23, 1929).

Announcement has been made that Dr. J. C. Johnstone, formerly of the Sonoma State Home at Eldridge, has recently been named as acting medical superintendent of the Pacific State Home at Spadra and that Dr. Charles Ritchie, who has been at Spadra for about a year, has been transferred to the state institution for the insane in Mendoccino County.

Mr. Richard M. Lyman, Jr., of San Francisco has been appointed chief counsel of the Board of Medical Examiners, vice Bradford M. Melvin, who resigned to accept a lucrative offer from the Richfield Oil Company.

Colonel W. H. H. Miller, head of the State Department of Registration and Education under Ex-Governor Small, was convicted of conspiracy to issue fraudulent medical and dental licenses last night by a criminal court jury before Judge Jacob M. Hopkins. The jury, which deliberated four hours, fixed Miller's sentence at seven months and a day in the county jail and a fine of $2000. . . . At one time H. Mitchell Blaine, alleged conspirator, submitted a list of five hundred unqualified persons to whom Miller planned to issue licenses at a price of $2000 each. . . . State's Attorney Samuel G. Clawsen cited evidence that the diploma ring had agents in St. Louis, New York, and other cities soliciting hospital orderlies, quacks, and laymen with no medical knowledge, to come to Illinois, purchase licenses through Miller's office and engage in practice for which they were utterly unqualified. . . . The state paraded before the jury witnesses who testified to having made payment to Miller for spurious licenses (Chicago *Tribune*, December 11, 1929). Comment: Illinois might well pass a law similar to California's so-called diploma mill law.

Irked by his chosen occupation as a Petaluma chicken raiser, Willie Carlos Barrington (colored) ventured into the realm of medicine. His procedure was to ask a druggist what was good for a certain complaint, then have the druggist write the directions on the container, which Barrington is asserted to have signed and sold to his various patients. On November 30 Barrington was sentenced on each of two counts for violation of the Medical Practice Act to pay a fine of $300 or serve one day in the county jail of Sonoma County for each $2 unpaid.

Francis J. Bold, Whittier physician, acquitted November 25 on a second degree murder charge resulting from the death of Mrs. Carmellita Wilhite, Englewood, alleged to have died following an illegal operation, has been cited to appear before the Board of Medical Examiners at the meeting which opens in Los Angeles, February 3, 1930.

Walter E. Kuhn, an alleged graduate of a Kansas City, Missouri, medical school not approved by the California board, was arrested December 12 on a charge of violation of the Medical Practice Act. On the same day he pleaded guilty in the police court at Chico and was sentenced to pay a fine of $600, which was paid, and to serve six months in the county jail of Butte County, from which jail sentence he was granted probation, with the provision that he leave the state within ten days. Investigation disclosed that Doctor Kuhn had carried on an extensive practice in and about Chico, our investigator finding approximately one hundred prescriptions written by Doctor Kuhn between the period of June 1 and November 11, 1929.